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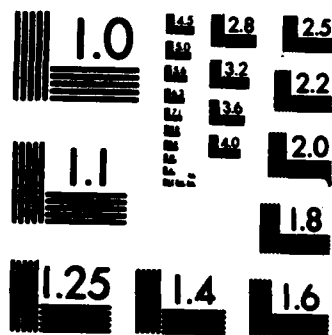
A DESCRIPTIVE STUDY OF STRESS LEVELS OF AIR FORCE  
ACADEMY CADETS(U) AIR COMMAND AND STAFF COLL MAXWELL  
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# AIR COMMAND AND STAFF COLLEGE

## STUDENT REPORT

A DESCRIPTIVE STUDY OF STRESS LEVELS  
OF AIR FORCE ACADEMY CADETS

MAJOR JOSE BOLTON 87-0275

*"insights into tomorrow"*

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ACADEMY CADETS

**AUTHOR(S)** MAJOR JOSE BOLTON, USAF

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Submitted to the faculty in partial fulfillment of  
requirements for graduation.

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<p>→ This study describes the stress levels of Air Force Cadets (all four classes plus clients seen by counselors in the Cadet Counseling Center) at the United States Air Force Academy. The Derogatis SCL-90-R was the measuring instrument used in this study. The data gathered from the research and stress levels obtained will be used as baseline material in stress reduction programs for cadets. The study concludes that stress levels for all groups were well above expected norms for this population.</p> <p>↖</p>			
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## PREFACE

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The United States Air Force Academy is the primary commissioning source for United States Air Force officers. Each year it welcomes more than 1300 young and enthusiastic basic trainees to the unique challenges of Academy life. It also graduates and commissions more than 900 second lieutenants each Spring. In between basic training and graduation an average of 35% a class leaves the Academy.

Their departures are precipitated by numerous factors. Primary among these are forces in the environment which they (the cadet) feel powerless to influence or cope with in a passive manner. This hopelessness leads to stress and all too frequently to paralysis of the cadet. It is a paralysis in the sense that the cadet has depleted available coping techniques and sees few options.

Paralysis in the context of this study will focus on stress but a larger area of concern for all military members is combat fatigue. And after all combat should be the main reason for conducting any training at the Academy. The behavior characteristics shown by soldiers in combat, who are incapacitated, is very similar to the

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complaints sometimes seen by counselors in the Cadet Counseling Center (CCC). Thus, the results of this study can have far reaching implications for the most effective manner to train our personnel for survival in combat.

This study was being accomplished at the request of the Air Force Academy Behavioral Sciences and Leadership Department, Air Force Academy, Colorado, to provide tools and options useful to the paralyzed cadet. It was to be used by the CCC Staff in their Stress Reduction programs. These programs include Flight Anxiety, Math Anxiety, Test Anxiety, general anxiety and some anxiety caused by phobias. Data from this study will also be used in the construction and norming of a specific stress instrument to be used at the military academies.

The writing style and format conform to guidelines specified by the American Psychological Association, as required by CCC. The CCC has further specified that within the APA guidelines, the research project adopt a thesis format traditionally accepted by the Behavioral Sciences and Leadership Academy for the Psychology in the DOD Symposium papers and Behavioral Sciences 499 projects.



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This study would not have been possible without help from outside sources. The CCC staff was extremely responsive. In particular, Lieutenant Colonel John Anderson, Major Carl Bryant and Ms. Elizabeth Hanson provided the resources, technical know-how, and direction for this research. The author is also indebted to Ms Carol A. Schochenmaier RN, BSN, Discharge Planning Coordinator with the Penrose Hospital in Colorado Springs for the assistance she provided. Her experience in the psychiatric care profession was invaluable. Finally, a thanks to those cadets who participated in the study, without them there would not have been a study.

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## ABOUT THE AUTHOR

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Major Jose Bolton graduated from Sioux Falls College in 1969. He served three years as a Psychiatric Ward Technician at Travis AFB and Elmendorf AFB. After attending Officer Training School, where he received the Most Outstanding Flight Member award, he was assigned to Columbus AFB as the OIC of the Race Relations Branch of Social Actions. For the next nine years he worked all levels of the base Social Actions program. He was selected as Junior Officer of the Quarter and attended Squadron Officers' School in residence and graduated from the Air Command and Staff College seminar program. Major Bolton completed two masters programs, one in Guidance and Counseling and the other in Public Administration.

In 1980 he received his Doctorate in Psychology and was assigned to the Air Force Academy as an instructor in the Behavior Sciences and Leadership Department in 1983. After being promoted to the academic rank of Assistant Professor, he was assigned to the Cadet Counseling Center as a counselor. He had primary responsibility for the

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Human Relations and Alcohol Education, Training and Counseling Program. While at the Academy he finished a third Masters, this one in Marriage, Family, and Child Counseling. He is a Nationally Certified Counselor and a member of the Military Counselors' Association. In 1986, he was selected to attend Air Command and Staff College at Maxwell AFB, Alabama.

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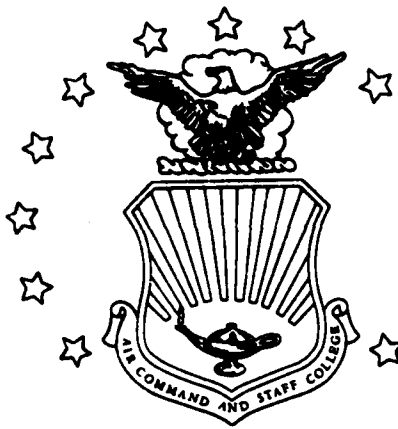
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## EXECUTIVE SUMMARY

Part of our College mission is distribution of the students' problem solving products to DoD sponsors and other interested agencies to enhance insight into contemporary, defense related issues. While the College has accepted this product as meeting academic requirements for graduation, the views and opinions expressed or implied are solely those of the author and should not be construed as carrying official sanction.

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### REPORT NUMBER

87-0275

### AUTHOR(S)

MAJOR JOSE BOLTON, USAF

### TITLE

A DESCRIPTIVE STUDY OF STRESS LEVELS  
OF AIR FORCE ACADEMY CADETS

THE PROBLEM. The problem of the study was to gather data to determine the stress levels of the Academy Cadet Wing. This information would be provided to the counselors of the Cadet Counseling Center (CCC) for use in their stress reduction programs. The study was the result of an increased use of stress reduction techniques by the CCC staff, a desire to invest in more biofeedback equipment, and the uncertainties of cadet stress levels. It was also seen as necessary for the long-term development and standardization of an instrument to be used at the Academy. The Air Force Academy will spend more than \$100,000 to graduate a Second Lieutenant. It will also have spent thousands of dollars recruiting young people to

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come to the academy. With 35 to 40 percent attrition rates, the Academy must do everything possible to insure the cadet has every chance to succeed. Stress reduction programs may prove extremely useful in this regard.

METHODOLOGY. Five randomly selected groups were obtained for this study. One group came from each of the four classes in the Wing and one from the CCC clients. All data were secured from voluntary responses on 193 questionnaires. Data were grouped by class and client status, translated to Derogatis's T-scores and reported by group means.

RESULTS. The results of the study indicated that CCC Clients had the highest stress levels of all groups. Third Class cadets had the lowest T-Scores for stress as measured by the Derogatis SCL-90-R (SCL). Second Class cadets, Third Class cadets and Clients all fall in the "caseness" range, as defined by Derogatis. Caseness meant the client was on or above the T-score of 63 or percentile ranking of 90%, on the non-patient scale. The trend toward upper classmen repeating the stress curves of lower classmen was clearly apparent. Stress levels for First Class cadets were never as high as those of the Third Class

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cadets and were lower than the Second Class cadets. Generally stress levels were high for Fourth Class cadets and Second Class cadets. This was also reflected in other dimensions.

CONCLUSIONS: The results of this study were somewhat expected. They confirm widely held opinions regarding a link between stress levels and performance demands. This linkage and other trends were identified. Overall the stress levels of the Academy Cadet Wing exceed the Derogatis norm level and would be considered to be significant in terms of the need of cadets for clinical support. Based on this data cadets on the average would require some form of coping assistance. Finally, the baseline data from this study can be used by the CCC staff in relaxation training for cadets.

RECOMMENDATIONS: USAF Academy leadership must consider studies of this nature as communication of a potential problem. The findings should be used to improve present training procedures. These findings should also encourage the Behavioral Sciences and Leadership Department to develop programs designed to assist the

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cadet at all stages of training, i.e., Fourth or First Class cadets. Primary attention must be given to educating all personnel on the signs of stress and how to modify the environment. Finally, the stress levels for cadets described in this study should be incorporated in any stress reduction program. As a bare minimum it offers baseline data that can be extremely useful for monitoring client progress.

## CHAPTER I

### Problem Formulation and Definition

The United States Air Force Academy literally hand picks the 1200 to 1500 cadets who enter the Academy each July. While the objectives of this process are straightforward, the process is a lengthy and involved one. It is designed to: 1) identify the best qualified high school graduates, 2) ensure these graduates are well prepared academically for the challenge of the Academy, and 3) provide the Air Force with well-prepared second lieutenants. The high school students selected by this process have many common characteristics. Among these characteristics was a history of success.

In fact, the individuals selected were successful in most areas of their lives. They belonged to high school clubs and usually were officers in these clubs. They participated on athletic teams and were the leaders of the team. Finally, they had an above average grade point average which meant they were in the top 5-10 percent of their high school class. Generally speaking a description of candidates identified them as competitive and successful.

Fourth Class cadets, who were interviewed and surveyed independent of this study, reported that

participation in clubs and activities while in high school had given them a great sense of self-fulfillment. They also noted the value that freedom of choice gave them. In addition, the results of unpublished surveys conducted by the Air Force Academy Behavioral Science and Leadership Department found 79 percent of those Fourth Class cadets sampled in 1983 were Type A personalities. The characteristics of Type A personalities were very common among Fourth Class cadets.

Rosenman and Chesney's study (1980), cited in Goldberger & Breznitz (1982), described Type A individuals as:

...orderly and well organized, self-controlled, self-confident, preferring to work alone when challenged, not easily distracted from task performance, outgoing, hyperalert, fast paced, competitive, tense and unrelaxed, impatient, aggressive, time conscious, deeply involved in vocation and unable to relax away from work, excessively striving with enhanced desire to control their environment, and hostile. (p. 549)

Another study, conducted by the Behavioral Sciences and Leadership Department, using the Rotter Locus of Control instrument showed 90 percent of the cadets sampled were internal in terms of locus of control. According to Rotter (1966) the Rotter Locus of Control identifies perception of control and influence of life objectives. It is defined by Bolton (1980) in two parts:

1. External Control -- E -- This person saw the results of his/her behavior as being affected by other factors, e.g., "luck". 2. Internal Control -- I -- This person perceived events to be contingent upon his/her own behavior or relatively permanent characteristics. (p. 18)

The importance of the results of these two studies is rooted in the fact that the psychosocial characteristics manifested by a Type A personality and a person with an internal locus of control are learned behaviors. In addition these behaviors have worked well for these cadets and have made them successful. Thus a person with a Type A personality and an internal locus of control may experience handicapping stress levels when confronted with an environment demanding all the characteristics of a Type A personality but denying the individual the chance to take control of the situation. Cadets who are conditioned to be in control but perceive a loss of control, and thus few options, are by definition experiencing stress. Finally, the characteristics which had facilitated success in the past did not prepare them for this new and unique environment. In fact, it might be said, their successful coping skills were a handicap in Academy life.

Powell (1963) believed learning adjustment and coping skills are an inherent function and challenge of adolescence as well as important to reducing stress. There

are numerous factors which are sources of adolescent conflict:

Better education, more industrial development, mechanization, etc., all seem to be factors that speed the appearance of the areas common to adolescent conflict. (p. 151)

According to Szcepanski's study cited in Powell (1963), the adolescent's adjustment, particularly in rapidly changing cultures, has become increasingly more difficult. (p. 180) The adjustments made by cadets, however difficult, have essentially the same influences as noted by Powell (1963) for all adolescents, i.e., parents, teachers, and peers. Likewise the adjustments cadets make while in the military training environment become even more important because the mastery of this environment is critical to success not only at the Academy but also in the Air Force. In fact, Lefcourt (1982) states, "evidence has been found that resourcefulness and resilience in the encounters with stressful experience reflect the beliefs held by individuals that they are responsible agents who are at least partially responsible for what befalls them". (p. 102)

One such adjustment includes the ability to perform under pressure. This skill is facilitated by an equal ability to relax when not under pressure or performing.



For cadets this level of relaxation may be achieved by doing a variety of activities which include anything from working out at the gym to heavy drinking on the weekends. Many times, however, these options cause the cadet more problems and thus more stress. The reduction of stress is only the start. Stress reduction techniques must relieve the pressure and do so in a socially acceptable manner.

#### Significance and Purpose of the Study

The Academy demands a great deal physically, psychologically, and emotionally from the cadet. This fact makes it a unique environment for all cadets, one not experienced on the average college campus. One might say the triple demand on the cadet, when coupled with a unique environment, could be a major reason for a class attrition rate of 35-45 percent over 4 years. However, according to comparisons of attrition rates from all academies, the Navy has the lowest rate (25%). Additionally, Institutional Research as well as the Registrar Office at the Air Force Academy noted cadets for all three academies came from the same recruiting populations. These two factors lead to a conclusion that there must be other factors in the environment to consider.

The reasons for attrition are numerous, but a sizable proportion of the early leavers have problems directly related to their inability to adjust to or cope with the military training environment. Counselors from the Cadet Counseling Center (CCC) believed many of those cadets leaving would have adjusted to the demands of the Academy if they had developed flexible coping skills to handle stress. The experience of the CCC with its Flight Anxiety Program (nearly 85% successful) was an indicator of what could be achieved when new skills were learned for coping with a stressful environment. Could such a program be used for general relaxation, thus, enhancing cadet coping skills and lowering attrition rates? Before this and other questions could be answered additional research had to be accomplished.

The fundamental step of any behavior modification program, like one for stress reduction, must begin with group baseline data. Data derived from observable and measurable stress related behavior, which a counselor can use in evaluating the severity of the client's problem relative to the norm group, is the starting point. Data were not available in the CCC to assist counselors or clients in recognizing the nature or the extent of the problem. According to Stensrude (1984), a baseline of data is fundamental and essential for any behavior modification

recognition and training program. Thus the purpose of the present study was to: 1) measure the level of stress for the Cadet Wing, and 2) measure the level of stress for cadets seen by the CCC.

### Research Questions

The following are questions fundamental to this study:

1. What is the stress level for the First Class of the Cadet Wing ?
2. What is the stress level for the Second Class of the Cadet Wing ?
3. What is the stress level for the Third Class of the Cadet Wing ?
4. What is the stress level for the Fourth Class of the Cadet Wing ?
5. What is the stress level for CCC clients ?

### Definitions

For the purpose of the study, the following are key terms requiring definitions :

ADOLESCENCE. Shertzer and Stone (1971) point to three factors that are significant and characteristic of this

period:

1. Adolescence is a transition period between childhood and adulthood. It refers to the physiological and psychological characteristics dominant between puberty and maturity. The use of chronological age to denote the period is virtually meaningless because the onset of puberty varies widely and researchers agree on no specific age as the termination for adolescence.

2. Physical and sexual maturation, as evidenced by changes in both the primary and secondary sex characteristics, result in shifts in attitude toward the accepted masculine and feminine sex role. This period of development includes the acceptance of one's own physical self and its potential reproductive process.

3. Adolescence also includes searching for emotional, social, and economic independence. It is a time for the individual to utilize at a more mature and complex level the ability to give as well as get, to communicate with others and to trust them, and to learn what is harmful and what is good for the self and others. (pp. 5-6)

ANXIETY. Clarizio and McCoy (1970) state that anxiety is a diffuse and undifferentiated apprehensive response to anticipated threat. (p. 2)

CADET CLASS RANK. A First Class cadet is a Senior. A Second Class cadet is a Junior. A Third Class cadet is a

Sophomore. A Fourth Class cadet is a Freshman.

CASENESS. Derogatis (1983) defines caseness as a Global Stress Index (GSI) score greater than or equal to T-Score 63, or any two primary dimension scores are greater than or equal to T-Score 63.

CLIENTS. Any cadet requiring services from the Cadet Counseling Center (CCC). In this study they were clients receiving relaxation training for stress related problems as determined by CCC counselors.

COPING. Lazarus and Folkman (1984) believe there are constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person. (p. 141)

RELAXATION PROGRAM. A relaxation program is any program used to aid the body to regain homeostasis, a state of equilibrium.

STRESS. Warheit (1979) defined stress as the altered state of an organism produced by agents in the psychological, social, cultural, and/or physical environments. (p. 503)

Selye (1974) saw stress as the nonspecific response of the body to any demand upon it. (p. 14)

### Limitations of the Study

An important limitation of the study is the use of a pen and paper instrument which requires a subjective response from the participant.

### Summary

This chapter contained a formulation and definition of the problem, purpose of the study, research questions, operational definitions, and limitations. Chapter 2 presents a review of related literature. Chapter 3 presents the methodology used in the gathering and treatment of the data. Chapter 4 presents the analysis of the data. Chapter 5 includes a discussion, conclusions of the research, and suggestions for further research.

## CHAPTER II

### Review of the Literature

This chapter presents a review of the literature that focuses on the issue of stress as it pertains to individuals in their late adolescence. Included is a discussion of the literature relevant to the concept of stress, stress responses, measurement of stress, adolescent development, adolescence and stress, and adaptation to military life.

#### The Concept of Stress

Stress has proven to be a difficult concept to define. Hans Selye (1974), renowned for his extensive research into the area of stress and common physiological responses, defines stress as, "the nonspecific response of the body to any demand made upon it" (p. 14). He further states that each demand on our body is specific. That is to say, when we feel warm, we perspire or when we feel cold we shiver. But Selye (1974) reported there is one more factor to consider.

In addition to their specific actions, all agents to which we are exposed also produce a nonspecific increase in the need to perform adaptive functions and thereby to re-establish normalcy. This is independent of the specific activity that caused the rise in requirements. The nonspecific demand for activity as such is the essence of stress. (p. 15)

It makes no difference whether the stressful situation is positive or negative. What counts is the magnitude of the demand to recover normalcy. Many researchers have noted the amount of stress present in American life.

According to Lancaster (1984) "stress has been labeled the twentieth century disease" (p. 843). His research identified six factors that contribute to the impact of stress in the life of adolescents. One factor was the sudden realization in the 70's that future generations will not be able to live better than the present one. Another factor was a growing concern regarding the quality of health care in this country. A third factor was a general concern for the adequacy of energy supplies. Other concerns involved unemployment, the cost of living, and the stress of living in a nuclear age. All of these contribute to the heightened level of stress. While not all six of these affect every adolescent to the same degree, the new cadet environment will be an uncertain one for all.



Identifying the causes of stress is just as difficult as defining it. However, the impact is rather easy to see. According to Knowles (1980), cited in Lancaster & Stanhope (1984), half of all deaths in the U.S., for all ages, from the top ten causes appear to be life-style related. (p.169) In support of this the government publication "Healthy People" (1979) proclaims "the health of human beings is determined by their behavior, their food, and the nature of their environment". (p. 203)

Henry, et al. (1971) and (1975) cited in Goldberger & Berznitz (1982), support these findings. Their findings relevant to the impact of the environment on the quality of life were as follows:

They were able to construct a psychosocial environment in which mice almost invariably developed hypertension and another environment in which susceptible mice strains inevitably develop breast carcinoma. The hypertension environment was a cage system in which the animals were under constant threat of dominance & challenge and had to compete for food in a territorial manner. The cancer environment involved a situation of forced breeding, in which the mice were kept in constant state of readiness to reproduce, while offspring were always removed after delivery. This resulted in a disorganization of the social structure and 100% incidence of mammary cancer in the susceptible female subjects. (pp. 734-735)

Seligman (1975) points out that while research of this nature has not used human subjects, the behavior of humans

does theoretically parallel animals in learned helplessness situations. According to Bourne and Ekstrand (1985), Seligman has provided support for his assertions.

His experiments show that depressed people and nondepressed people given insoluble problems behave similarly in a variety of circumstances. He has also shown that depressed people tend to view events to which they are exposed as uncontrollable, but nondepressed people view these same events as controllable. (p. 157)

Larzarus and Cohen (1977) as cited in Altman & Wohlwill (1983) have identified three ways learned helplessness may occur in the environment. They listed three types of environmental events individuals have little or no control over: major changes including cataclysmic events which affect large numbers, major changes affecting one person, and daily hassels. At the Academy all three of these events can occur. It is formally known as basic training but continues to some extent all year around. Cadets generally labeled all these events in the daily hassels category.

These environmental events frequently translate into depression and sometimes self-destructive behavior. Among college and younger students, self-destructive behavior has been at epidemic levels. Stein and Davis (1982) found that suicides occurred when individuals found themselves

without options. The suicides on the Wind River Indian Reservation in 1986, for example, were attributed to stress from the feelings of "not belonging". Suicides among cadets are not unheard of; fortunately, they are rare.

As a result of these unfortunate deaths, however, the Cadet Counseling Center (CCC) is always alert to help cadets deal with stress and depression. In addition, the Cadet Clinic (medical) is always challenged to look for the impact of stress and depression when cadets come in with frequent colds, ulcers, complaints of sleeplessness and eating disorders. Faigel (1972), cited in Stein and Davis (1982), found the alertness of those in contact with the depressed person proved extremely helpful where suicide indicators were known by the observer.

### Stress Response

This alertness begins with the awareness of human response to stress. Selye (1976), cited in Worchel & Shebilske (1983), found that the stress response, general adaption syndrome (GAS) as he termed it, was systematic and occurred in three phases:

1. Alarm reaction - physiological indications of alertness by the body and readiness for fight or flight.

This may include loss of appetite, fatigue or headaches.

2. State of resistance - in this stage the body recovers and returns to normal. There is an increase in vigor but the body may not be able to resist other stimuli.

3. Stage of exhaustion - this stage occurs when the stress persists. It is characterized by exhaustion and the return of the symptoms of the alarm reaction stage. If this stage is allowed to continue death may occur.

(pp. 325-340)

Stress typically causes the body to make adjustments (usually these adjustments are increases from the individual's normal pattern), in the following responses:

1. Metabolism
2. Blood pressure
3. Heart rate
4. Rate of breathing
5. Amount of blood pumped by heart
6. Amount of blood pumped to the skeletal muscles.

A knowledge of how the body reacts and the adjustments it makes aids in quantifying stress.

#### The Measurement of Stress

Extensive information has been provided regarding

indicators of stress. Lancaster and Stanhope, (1984) cited the categories of physical, behavioral, and emotional, as essential to a clear understanding of the impact of stress on the individual. It should be noted that these categories were quantified. In other words, all of the following indicators can be observed, counted or measured by an objective third party.

The first indicator, physical, had the following signs of:

1. Elevated blood pressure
2. Increased muscle tension (neck, shoulders, back)
3. Elevated pulse and/or increased respiration
4. "Sweaty" palms
5. Cold hands and feet
6. Slumped posture
7. Tension headache
8. Upset stomach
9. Higher pitched voice
10. Change in appetite
11. Urinary frequency
12. Restlessness
13. Difficulty in falling asleep or waking up;  
frequent awakening
14. Dry mouth and throat.

The second indicator, behavioral, appears in the

following manners:

1. Decreased productivity and quality of job performance
2. Tendency to make mistakes; poor judgement
3. Forgetfulness and blocking
4. Diminished attention to detail
5. Preoccupation, daydreaming or "spaced out"
6. Inability to concentrate on tasks
7. Reduced creativity
8. Increased use of alcohol and/or drugs
9. Increased smoking
10. Lethargy
11. Increased absenteeism and illness
12. Loss in interest
13. Accident proneness.

The final indicators fall into the emotional arena as follows:

1. Emotional outbursts and crying
2. Irritability
3. Depression
4. Withdrawal
5. Hostile and assaultive behavior
6. Tendency to blame others
7. Anxiousness
8. Feeling of worthlessness
9. Suspiciousness. (pp. 311-325)

Baseline data gathered from all these indicators can help in a determination of clinical stress for a client. It becomes a matter of comparing client data versus norm data to find the level of stress for the client. This was accomplished looking at life events as contributors to stress.

Holmes and Rahe's (1967), cited in Worchel and Shebilske (1983), were among the first to develop an instrument for this purpose. Their 43 item instrument, The Social Adjustment Scale, identified stressful experiences that an individual might have in one year. The number derived is a percentage predictor of the chance of hospitalization in the next year. If someone received 150 points or less they had a 10 percent chance, 150-300 they had a 50% chance, and 300 or above they had a 90% chance of being hospitalized in the next year. When this scale was administered informally by the Behavioral Sciences and Leadership Department to cadets many of them responded with scores exceeding the 300 level. (pp. 326-327)

Holmes and Rahe did not guarantee that people over a 300 level would get sick, but this instrument did identify enough indicators of potential problems that the information gained from it could be used as a proactive approach for fighting stress. In addition, the above noted

list of indicators gives the counselor a focal point for making an accurate assessment of client needs.

### Adolescent Development

The clients serviced by the CCC were college age, generally between the ages of 17 and 26. For the purpose of this study, this age group will be identified, developmentally, as in their late adolescence or youth as described by Kennistion (1970). As such, they like other adolescents, were experiencing significant adjustments in their lives. These adjustments, frequently referred to as Life Cycle Adjustments, are common in developmental literature. Erickson (1968), Bandura (1977), Piaget (1970), Freud (1935), and Crain (1980) all identified, in their own unique ways, Life Stages.

There are numerous psychological problems that customarily occur during the adolescent period. However, this study deals with a special segment of the population (Academy cadets). Thus, the specific problems of that segment will be addressed in terms of the uniqueness of the environment. The CCC addresses issues such as depression, obesity, interpersonal skills, asertiveness, dating, aggressive behavior, identity concerns, suicide, academic anxiety, and alcohol related



incidents. Stein and Davis (1982) have combined the above listed problems in a single category of "Fears, Anxieties, and Phobias".

Most of the problems included have anxiety as the central feature. This includes fears, anxieties, phobias, obsessions, compulsions, and hysterical reactions. Preventive treatment of minor symptoms as well as treatment of specific disorders typically involves learning to manage anxiety and tension. (pp. 13-62)

Treatment programs used with this population, utilized a variety of methods to assist adolescents toward recovery. These methods, cited in Stein & Davis (1982), include relaxation training by Little & Jackson (1974), a combination of cognitive and relaxation training from, Meichenbaum (1972), behavioral treatment of thoughts designed, Campbell (1973), and a cognitive-behavioral approach by Holroyd, et al. (1983). Other research by Jacobson (1939) focused on the use of tensing and relaxing muscle groups as a way to relax. Later efforts by Jacobson (1978), and Benson (1975), put forth designed relaxation programs that were easy to teach, learn, required little in equipment cost and had positive results for the client.

#### Adolescence and Stress

Developmental literature pointed out some common

factors to consider regarding the period of adolescence in human development. Kohlberg, cited in Crain (1980), as well as Piaget (1970) and Erikson (1968), all contend that significant physical, psychological, and emotional changes occur at different times of a person's life. Adolescence is a stage of development which includes all three of these changes. One significant issue affecting an adolescent's development is puberty. (pp. 104-119)

Puberty has been described as an extremely stressful period in development. Everything from the juvenile delinquent's moodiness to selection of fadish hair styles has been attributed to puberty. Goldberger & Breznitz (1982) have taken careful note of this:

Puberty involves dramatic internal endocrine changes, as well as equally dramatic external physical changes. Except for infancy, no other life stage involves such extensive biological changes. What distinguishes puberty from infancy is that young people experience both these changes in themselves and the responses of others to the changes. (p. 517)

There are two mechanisms used by society to determine adult status: biological maturation and social convention, i.e., this might include rights of passage or levels of accomplishment as in schools. Table 1 lists these biological and social changes.

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Insert Table 1 about here

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During this period of biological and social adjustments the individual is being pulled in many directions developmentally. Table 2 summarizes the various developmental stresses of adolescence. Many of these stressors are interrelated. Also individuals will be affected at differing rates and degrees. In the "Handbook Of Stress" edited by Goldberger & Breznitz (1982), three critical factors in development for adolescences emerge. According to them:

...the timing of developmental changes, individual vulnerability, and social supports all serve to mediate the effects of developmental stress in adolescence. These same mediators also operate with unpredictable stresses. Timing, "lack of" preparation, individual vulnerability, and social support have all been found to modify the experience of such stressful life events as the death of a loved one. (p. 522)

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Insert Table 2 about here

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Goldberger & Breznitz (1982) have designed a flow chart (Table 3) to explain the relationship between stressors, mediators, and the responses of adolescences. Stressors (developmental or life events) are affected by four mediators in our lives (preparation, timing, vulnerability, and support). These mediators seem to influence how we respond to stressors.

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Insert Table 3 about here

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### Adaption to Military Life

The interaction between stressors, mediators, and

responses is very apparent when the individual moves into a unique environment. The Air Force Academy is one such environment. The Air Force Academy does not mirror the "active duty" Air Force in all respects; however, as a training ground for future career officers, it is representative of a military training environment.

The unpredictability of the environment is a stressor of significant proportions. In fact this very type of unpredictable environment is a key component of military training and generally is encouraged because it does increase stress. Recruits do adapt by forming/developing cognitive coping strategies. Frequently this is a function of ascertaining what is important to know and do. Once the recruit is aware of the important issues, then by definition, the unpredictable has been reduced along with the associated stress.

Mediators assist cadets to deal with the stress caused by an unpredictable environment and personal developmental issues by providing alternative sources for solving their problems. The most apparent mediator is when the cadet realizes that other cadets are having problems just like them. Yalom (1985) refers to this as universality. Universality is the feeling that others are in the same boat and if others can make it, so can I. Another mediator which goes hand-in-hand with universality

is social support. Cadets generally get this from members of their flights or the Flight Specialists assigned to each flight to act as peer counselors. Mediators can not eliminate stress from the environment. Novaco et al., cited in Meichenbaum & Jaremko (1983), see the intent of basic training in the following way:

The rigors of basic training....are mainly intended to prepare recruits for combat. In a general sense, boot camp habituates the recruit to the kind of unpredictable stressors likely to be encountered in combat. Discipline, motivation, physical conditioning, and weapons skills are the goals of basic training. Yet there is considerable variance in the ease with which these objectives can be attained. Physical conditioning and competence with weapons are more readily achieved than are discipline and motivation. (p. 377)

It is impossible to discuss the unpredictability of the recruit's environment without addressing the instruction and behavior of the drill instructor. At the Academy during basic training, the drill instructors are upper-class cadets, they are referred as cadre. Usually a First Class cadet is in charge of all training with supervision from cadets or commissioned officers. In this situation the upper class cadet has the responsibility for the training of new cadets. Thus, cadre members have a significant amount of control and influence over basic trainees. Again Novaco et al., cited in Meichenbaum &

Jaremko (1983), discuss and the importance of training personnel:

To elaborate briefly on the prospect of environmental change, we contend that the environmental demands during recruit training are determined not only by the rigorous tasks and challenges specified...but also by the particular way in which the training regimen is operationalized by training personnel. Drill instructor teams, in particular, vary in the manner in which they conduct training, so that there is variation in the social environments of platoons. The demands to which recruits are exposed are not uniform. This is manifested in variation in attrition rates, as well as on the cognitive structures of platoon members, such as locus of control. (p. 380)

### Summary

This chapter presented a literature review relevant to the present study in six areas: (1) the concept of stress, (2) stress response, (3) measuring stress, (4) adolescent development, (5) adolescence and stress, and (6) adaptation to military life. Chapter 3 presents the methodology and analysis used in the study.

## CHAPTER III

### Methodology

This chapter presents the methods and procedures of the study. Specifically, the following areas are detailed: (1) the research approach, (2) the research design, (3) instruments used, (4) statement of null hypotheses, (5) a description of the subjects, (6) data collection, and (7) treatment of the data.

#### Research Approach

This study was concerned with the stress levels of United States Air Force Academy (USAFA) cadets. It was limited to those personnel assigned to the US Air Force Academy at Colorado Springs, CO. The research was conducted using a descriptive approach.

According to Emory (1985), "The objective in a descriptive study is to determine the who, what, when, where and how of a topic" (p. 69). Isaac and Michael (1971) state the purpose of the descriptive method is "to describe systematically the facts and characteristics of a given population or an area of interest factually and accurately" (p. 18). This could include test score analysis or it might describe the average subject. Isaac and Michael (1971) go on to explain:



Descriptive research is used in the literal sense of describing situations or events. It is the accumulation of a data base that is solely descriptive---it does not necessarily seek to explain relationships, test hypotheses, make predictions, or get at meanings and implications... (p. 18)

### Research Design

The study was conducted at the USAFA, one of four Air Force and Army installations in Colorado, but the only one conducting military training for cadets. It had a military population of nearly 3000 active duty personnel and over 4400 cadet personnel. It was a descriptive study in which stress levels of USAFA cadets were measured by the Derogatis SCL-90-R (SCL). See Appendix A for sample questions.

Between October 1985 and January 1986, SCL was administered to a randomly selected sample population. At the same time that the SCL was administered, each participant completed a demographic sheet (Appendix B).

Five groups were selected based on cadet class ranking (First Class cadet, Second Class cadet, etc.) with the fifth group being Cadet Counseling Center (CCC) clients. Table 4 shows only the number of surveys sent to each class. The Client group was randomly selected from 298 clients using relaxation techniques during the time of

the study. The fundamental objective of this study was to determine the stress levels for each group.

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Insert Table 4 about here

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#### Instrumentation -- Derogatis SCL-90-R

The study used a self-administered instrument and a personal data questionnaire. The stress data gathering instrument was the Derogatis (SCL). The personal data questionnaire requested general demographic data regarding age, class membership, rank, length of time in military, race, sex, Superintendent's award, Commandants award, and probation (academic, athletic or conduct).

The SCL is a 90 item self-report symptom inventory developed to reflect the psychological symptom patterns of psychiatric and medical patients. Norms have been developed on a number of populations including: psychiatric outpatients, non-patients, psychiatric inpatients and adolescent non-patients (Derogatis, 1983). It is a measure of current, point-in-time, psychological

symptom status. A preliminary version of the scale was introduced by Derogatis and his colleagues in 1973 and, based on early clinical experiences and psychometric analyses, was modified and validated in the present R(evised) form.

Each item of the SCL is rated on a 5-point scale of distress (0-4), ranging from "not-at-all" at one pole to "extremely" at the other. The SCL is scored and interpreted in terms of the 9 following primary symptom dimensions and 3 global indices of distress:

Primary Symptom Dimensions:

I.	SOMATIZATION	(SOM)
II.	OBSESSIVE-COMPULSIVE	(OBS-COM)
III.	INTERPERSONAL SENSITIVITY	(INT-SEN)
IV.	DEPRESSION	(DEP)
V.	ANXIETY	(ANX)
VI.	HOSTILITY	(HOS)
VII.	PHOBIC ANXIETY	(PHO)
VIII.	PARANOID IDEATION	(PAR)
IX.	PSYCHOTICISM	(PSY)

Global Scales:

GLOBAL SEVERITY INDEX	(GSI)
POSITIVE SYMPTOM DISTRESS INDEX	(PSDI)
POSITIVE SYMPTOM TOTAL	(PST)

### Statement of The Null Hypotheses

The purpose of the study was to determine the stress levels of all study groups. The SCL was used to gather data. The hypothesis, stated in the null form was as follows:

Null Hypothesis 1: There will not be a difference between the stress level T-Scores of the study groups when compared to the Derogatis norm group for caseness as measured by the Derogatis SCL-90-R.

### Description of Subjects

Initially 300 surveys were randomly sent out to the Cadet Wing (Table 4), of these 300 only 189 were returned. Errors and incomplete answers resulted in only 163 being used in the study. Combining the 30 CCC clients brought the total to 193. Since this was a pilot study to gather stress baseline data, the researcher selected only those clients for whom relaxation was a recommended course of treatment for stress related complaints. All survey participants were Air Force cadets. Their ages ranged from 17 to 24 years. The time they had been at the Academy ranged from four months to more than five years (Table 5).

Participants were randomly selected and organized by

class in a total of five groups for the study. The first group, 40 First Class cadets, was selected from a population of nearly 900 cadets. The second group, 26 Second Class cadets, was selected from a group of 1100 cadets. The third sample group, 39 Third Class cadets, was selected from 1200 cadets. The fourth group, 58 Fourth Class cadets, was selected from a class of nearly 1400 cadets. The fifth group, 30 cadets, was compiled from CCC clients receiving treatment during this same time period for stress related issues. The fifth group included cadets from all classes.

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Insert Table 5 about here

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Randomness was achieved by obtaining a list of the Cadet Wing and breaking it down by class. Subjects were randomly selected using a random numbers table. No specific requirement was placed on the population with respect to intelligence quotient, extra-curricular activities, cultural background, specific achievements, or unique coping problems. It was assumed that the population

represented a cross-section of ethnic and social interests, and that it was representative of the Cadet Wing population. All participants were volunteers in the research.

### Data Collection

The gathering of data took place over a four month period to secure a representative sample. The return rate on instruments was 90 percent overall. The nature of the study was explained to each participant in a cover letter to the questionnaire (Appendix C). Cadets who did not wish to participate were asked to return all materials. No surveys were returned unanswered.

The study began with the administration of the first questionnaires in October 1985 and the final ones were administered in January 1986. The subjects were instructed to complete all materials. They were informed that their participation in the study would not affect their status as military members. The questionnaires were evaluated for completeness and assigned a number by the researcher. Data from each questionnaire were transferred to answer sheets and hand scored preparatory to computer analysis.

### Treatment of Data

Data from the demographic data sheet were categorized and presented in a frequency distribution format for the purpose of the study. In addition, data gathered relative to the SCL were computed for raw score and transformed to T-scores for each group as prescribed by the Derogatis SCL Manual.

### Summary

This chapter reviewed the general and specific methods and procedures used in conducting the study, which was concerned with the stress levels of USAFA cadets. The individual sections included in this chapter were: (1) the research approach, (2) the research design, (3) statement of stress levels and comparisons, (4) a description of the subjects, (5) instruments used, (6) data collection, and (7) treatment of data.

## CHAPTER IV

### Results

This chapter presents the findings of the study. The results as presented in this chapter were analyzed in relation to the research questions asked in this study. General comparisons were made between the findings from each grouping. The chapter contains three major sections. The first section presents the demographic descriptions, the second gives a description of the Derogatis SCL-90-R (SCL) data, and the third presents the Null Hypothesis evaluation.

Three hundred questionnaires were distributed randomly to the Air Force Academy Cadet Wing, 75 to each of the four classes. Fifty-six were returned by the First class, 46 by the Second class, 49 by the Third class, and 68 by the Fourth class. These return rates resulted in an overall return rate of 90 percent. There were various reasons for rejection of some of the questionnaires (total N). The two primary reasons for rejection of the questionnaires were: (1) incompletely marked or (2) inappropriately marked questionnaires. All randomly selected clients (30) receiving the questionnaire completed them, for a 100% return rate.



### Demographic Data

Tables 6 through 15, and Figures 1 through 10 (Appendix E) display the demographic data of the participants. The majority of subjects (51 percent) were in the 18 to 21 year range. This is seen as a normal age range for college students seeking their BA or BS. Table 6 presents the age comparisons.

The range of age levels for three of the four Cadet Wing groups was four, but Third Class cadets were the exception with a range of five age levels. The Cadet Counseling Center (CCC) Client group had all seven age levels represented, which is normal since all classes were seen in the CCC. The major (33%) age level was twenty years old.

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Insert Table 6 about here

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Table 7 presents the racial origin of the subjects. All 193 participants fell into the five racial groupings used by the researcher, with 82 percent being Caucasian,

8 percent Black, 3 percent Asian American, 5 percent Hispanic, and 2 percent Native American. All racial percentages met or exceeded the Wing populations with the exception of Caucasians.

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Insert Table 7 about here

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Table 8 shows the distribution of subjects and if they were on academic, military, or athletic probation. Thirteen percent were on academic probation, 6 percent were on military probation, and 3 percent were on athletic probation. Less than 1 percent of the cadets sampled were on multiple probations. This accounts for the difference in numbers and percentages from the overall sample population.

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Insert Table 8 about here

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Table 9 presents the military point average (MPA) by class. Five percent of those reporting were 2.00 or below, 21 percent were 2.01 to 2.50, 50 were 2.51 to 3.00, 21 were 3.01 to 3.50, and 7 percent were 3.51 to 4.00.

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Insert Table 9 about here

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Table 10 lists the grade point average by class. Eight percent of those reporting were 2.00 and below, 27 percent were 2.01 to 2.50, 34 were 2.51 to 3.00, 20 were 3.01 to 3.50, and 11 percent were 3.51 to 4.0.

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Insert Table 10 about here

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Table 11 depicts the demographic breakout of each class by sex. Eighty-three percent of the participants

were male and 13 percent were female. The sex distribution for the Cadet Wing was 90 percent male and 10 percent female. Less than 7 percent of those seen in the CCC and participating in the study were female.

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Insert Table 11 about here

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Table 12 represents by class the percent of those cadets on the Commandant's List. Minimum MPA required was 3.00. The computation for MPA is very involved but much more subjective than the GPA, i.e., it includes forced peer ratings.

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Insert Table 12 about here

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Table 13 shows by class the percentage of cadets on the Dean's List during the period they took the survey. The

minimum GPA required was 3.00 in all subjects taken during the preceeding semester.

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Insert Table 13 about here

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Table 14 characterizes by class the percentage of cadets participating on intercollegiate teams. All cadets were required to participate in intramurals unless on an intercollegiate team. Fifty percent of the Fourth Class cadets taking the survey were on intercollegiate teams as compared to 23 percent of the First Class cadets, 27 percent of the Second Class cadets, and 15 percent of the Third Class cadets. Twenty percent of the clients surveyed were on intercollegiate teams.

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Insert Table 14 about here

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### Description of Experimental Data

The SCL instruments were used to investigate the hypotheses. The mean T-Score of each group was compared with other groupings. Comparisons were made with non-patient norm data from the Derogatis 1983 "SCL-90-R Administration, Scoring & Procedures Manual-II". Appendix E provides the list of T-Scores by class and client populations.

### Derogatis SCL - 90 - R (SCL)

Individual raw scores were determined by standard calculation of the SCL. Individual raw scores were combined for the purpose of achieving group means, which in turn were transposed to T-Scores. Table 15 presents by class and client groupings, T-Scores on the SCL. The one pertinent area of difference that was noted was found in the Third Class cadets and clients. Compared with the Derogatis norm data these were lower and higher respectively than the T-Score (63) for "caseness". See Appendix E for details on subscores and computation of global scales.

According to the Derogatis SCL-90-R Manual - II (1983), the Global Severity Index (GSI) can be used for an

overall interpretation of a clients stress level and determining "caseness". Caseness is operationally defined as follows: "...if the respondent has a GSI (on the Norm B, the non-patient norm) score greater than or equal to T-score 63, or any two primary dimension scores are greater than or equal to T-score 63, then the individual shall be considered a positive diagnosis or a case" (p. 28).

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Insert Table 15 about here

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In addition to the GSI score, there are eleven other possible scores to be derived from the SCL. Nine of these come from the nine separate dimensions of the SCL, the total of which is reflected in the GSI. The first of these is the Somatization (SOM) dimension. It reflects the cadet's perception of bodily dysfunction. All groups where within 10 points on the SOM dimension (Figure 1). The Third Class cadets were the lowest with a T-Score of 49. The Second and Fourth Class cadets had the highest T-Score of 59.

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Insert Figure 1 about here

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The second dimension is Obsessive-Compulsive (OBS-COM). This dimension is identified with the clinical syndrome of the same name. It measures unwanted thoughts, impulses, and actions. All groups scored within 12 T-Score points of each other on the OBS-COM dimension (Figure 2). Clients and Fourth Class cadets exceed the caseness T-Score level of 63, with the clients' T-Score of 71, the highest. The lowest T-Score (59) is that of the Third Class cadets. Finally, while the Second Class cadets equaled the T-Score 63, First Class cadets were below this caseness level.

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Insert Figure 2 about here

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Interpersonal Sensitivity (INT-SEN) was the third dimension. Generally, the INT-SEN dimension focuses on



feelings of personal inadequacy or inferiority. All groups on the INT-SEN dimension exceed the T-Score of 63 with the exception of the Third Class cadets. Three groups had the identical T-Scores of 68 (Figure 3).

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Insert Figure 3 about here

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Next came the Depression (DEP) dimension. It too parallels the clinical syndrome of the same name, having among others descriptions, a loss of vital energy for victims. Clients, Fourth, and Second Class cadets were above the caseness T-Score of 63. First and Third Class cadets were the lowest with a T-Score of 59 (Figure 4).

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Insert Figure 4 about here

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The fifth dimension is Anxiety (ANX). Symptoms here

are associated clinically with high levels of manifest anxiety. All groups with the exception of Third Class cadets were within 9 points on the Anxiety dimension (Figure 5). Clients and Fourth Class cadets exceeded the caseness T-Score of 63. Clients had the highest T-Score of 71, and Third Class cadets were the lowest at 48.

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Insert Figure 5 about here

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Sixth is the Hostility (HOST) dimension. The data showed the Clients, Fourth, and Second Class cadets met or exceeded the caseness T-Score of 63 (Figure 6). First and Third Class cadets are equal with T-Scores of 50. The highest T-Score was 65, and it was for the clients.

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Insert Figure 6 about here

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The Phobic Anxiety (PHO-ANX) dimension follows in the Derogatis SCL. It is characterized by a fear of places, people, or situations. Clients were the only group to have a PHO-ANX level of significance 59 (Figure 7). However, this was still well below the caseness level T-Score of 63.

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Insert Figure 7 about here

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The Paranoid (PARA) scores were the next to consider on the list of dimensions. Essentially it focuses on disordered ways of thinking. Clients and Fourth Class cadets had the highest T-Scores (64) on this dimension (Figure 8). First Class cadets were within 2 points at 62. Third Class cadets were the lowest at 49.

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Insert Figure 8 about here

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Psychoticism is the last of the nine fundamental dimensions. It provides information on a continuum from mild interpersonal alienation to psychosis. T-Scores were high for Clients (69), Fourth (64), and Second Class (64) cadets (Figure 9). Lowest T-Scores were achieved by the Third Class cadets (10). First Class cadets were at 59.

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Insert Figure 9 about here

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For an all encompassing score that reflects all of the above dimensions, the SCL provides the following three global indices of distress: Global Severity Index (GSI), the Positive Symptom Distress Index (PSDI), and the Positive Symptom Total (PST).

The most significant one of the three is the GSI. Third and First Class cadets are the only ones below the caseness T-Score of 63 with a 52 and 61 respectively. Clients are the highest at 72 with Fourth Class cadets (67) and Second Class cadets (65) following closely (Figure 10).

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Insert Figure 10 about here

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The PST is the second in importance of the global indices. It is a count of the number of symptoms the cadets reported as having experienced. All groupings were within 4 points of each other on the PST. Thus, their report showed similar number of experienced symptoms (Figure 11). The lowest group was the Third Class cadets at 60. Therefore, Second (64) and Fourth (64) Class cadets along with Clients (64) all exceeded the caseness level T-Score of 63.

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Insert Figure 11 about here

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The third of the global indices is the PSDI. Its focus is narrow in that it looks at the style of response by cadets, i.e., "augmenting" or "attenuating"

(Derogatis, 1983, p. 11). Four groupings were very similar in the reporting style of their disorders (Figure 12). This included Clients (66), Fourth (63), Second (60) and First (52) Class cadets. Third Class cadets had a T-Score of 10, well below the other groups.

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Insert Figure 12 about here

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A further examination of these scores shows the Third Class cadets' T-Scores were consistently lower, with the Clients' T-Scores being consistently higher. There were areas of uniquenesses for most groups with the First Class cadets scoring higher than others in the OBS-COM subscale, Second Class cadets higher on the INT-SEN scale, and Fourth Class cadets higher on the SOM subscale. Overall the CCC Clients were higher on 78 percent of the subscales and Third Class cadets were lower on 89 percent of the subscales. This trend continued on the Global Severity Index (GSI) with the client T-Score at 72 and the Third Class cadets the lowest at 52.

### Evaluation of the Null Hypothesis

The following is a summary of the findings after comparing the T-Scores of the groups. The SCL was used to evaluate the Null Hypothesis. The Null Hypothesis was as follows:

Null Hypothesis 1: There will not be a difference between the stress level T-Scores of the study groups when compared to the Derogatis norm group for caseness as measured by the Derogatis SCL-90-R. This hypothesis was rejected.

### Summary

This chapter presented the findings of the study. Data were applied directly to the null hypothesis with the result the hypothesis was rejected.

## CHAPTER V

### Summary

The final chapter contains a summary of the research, conclusions of the research, implications, and recommendations. The study was concerned with stress levels of Air Force Academy Cadets from all four classes and the Cadet Counseling Center (CCC) clients.

The importance of the study was twofold. First, and foremost, it was to establish stress levels for cadets, as measured by a clinically normed instrument. Stress contributed to more than 95 percent of the complaints of cadets using the CCC and indirectly impacted on the retention rates. Establishment of the stress levels is the first significant step in designing counseling treatment programs using relaxation approaches. Second, it was expected that this research would provide a general understanding of cadet behavior and their use of coping skills. This research will begin to fill that vacuum by gathering data to support the norming of a specially designed instrument, the Stress Inventory for Military Universities.



### Research Questions

Question 1 asked what was the stress level for the First Class of the Cadet Wing ?

Question 2 asked what was the stress level for the Second Class of the Cadet Wing ?

Question 3 asked what was the stress level for the Third Class of the Cadet Wing ?

Question 4 asked what was the stress level for the Fourth Class of the Cadet Wing ?

Question 5 asked what was the stress level for CCC Clients ?

### Theoretical Analysis

The theoretical basis for the study was developed from the work of Selye (1974) which was the catalyst for later research done by Stein & Davis (1982) and Lancaster (1984). They believed that there was a common link between the impact of environmental stimuli and the human condition. Selye saw these changes clearly in three distinctive phases. These he called the "General Adaption Syndrome". More specifically they were: alarm reaction, resistance stage, and exhaustion stage.

Lancaster identified six factors which seemed to contribute to the stress levels of adolescents. Those were: future life style, quality of health care, unemployment, energy resources, cost of living, and the nuclear umbrella. Stein & Davis (1982) have compiled a variety of treatments to assist adolescents towards recovery from stress related issues.

Additional theoretical support came from the social learning theory of Erikson (1968) and Piaget (1970). All contended that there were stages which humans transition through. Becoming a fully functioning individual depends in part on the skills learned in the previous stages of development. Much of this learning is attributable to modeling and imitation of others.

Thus, the ability to cope with stress was a learned skill. Finally, Derogatis (1983) found that stress levels could be measured by an examination of life events through subjective self-report instruments. The theory of Derogatis coupled with the Derogatis SCL-90-R formed the theoretical foundation of the study.

### Review of The Literature

The literature was examined in six basic areas: concept of stress, stress responses, measuring stress,

adolescent development, adolescence and stress, and adaptation to military life.

Concept of stress was definitional in nature and lead to identifying stress responses as defined by Selye (1974). Literature related to the measurement of stress described the progression of techniques used to identify stress and how it evolved to self-report instruments.

The unique adjustments for adolescents were explored with attention to general physical and psychological cues from which adolescents learn they are adults. This was paired with stress to demonstrate the compounding variables affecting an adolescent. Finally, information for training and the adjustment to military life were reviewed.

#### Methods and Procedures

A random selection of cadets at the United States Air Force Academy were asked to complete the SCL. Five groups were selected-- four representing each cadet class and one representing clients at the CCC. The resulting data were scored, grouped in means and transformed to T-scores.

### Discussion of Hypotheses and Findings

Null Hypothesis 1: There will not be a difference between the stress level T-Scores of the study groups when compared to the Derogatis norm group for caseness as measured by the Derogatis SCL-90-R (SCL). This hypothesis was rejected.

The SCL measures the stress levels of individuals in terms of recent experiences. That is to say they are asked to respond to the questions based on their experiences of the last seven days. This limitation of the instrument makes generalizing of the material difficult. This could be better evaluated with a longitudinal study.

A difference was observed when comparing these five groups. (Appendix D contains line and bar graph displays of the SCL ). The variance that can be seen in all of the sample comparisons demonstrates that the groups were different from each other, as well as the Derogatis norm population, in their levels of stress.

It appears there may be a link between stress levels and performance demands. This linkage and other trends were identified for each class. This is very evident in the Third Class cadet data. The system at the Academy appears to leave the Third Class cadets to their own

devices. They are not responsible for conducting training until late in the third class year. The frequent changes in administrative guidance from the Commandant's staff has played a significant role in reducing the importance of the Third Class cadets' role as trainers for the Fourth Class cadets. On the other hand they are not being trained, which would otherwise require them to respond to upperclass cadets as do Fourth Class cadets. The Third Class cadets' primary duty seems to be to work hard academically and support the squadron oriented activities, i.e., intramurals.

This freedom may be the cause of some problems within the Third Class. As a class they have the highest rate of antisocial problems, frequently alcohol related. This seems to be the year group at the Academy that responds to being constrained for the last year in such an aggressive manner. But one must remember they are only 19 or 20 years old and their peers are out having fun and socializing in ways they, the cadets, frequently can only talk about. This is frustrating for some of them. Adolescence is a time to test limits. It is also possible they want to test the system to see what it is really like before they actually sign a commitment to the Air Force. Up until the second year (Third Class) they have no commitment to the Air Force.

Frequently in class as well as counseling sessions cadets have noted they were reviewing their reasons for coming to the Academy. When they hear what their friends are doing at UCLA or VMI and the freedom they have, a part of them says they want more freedom. They suddenly don't like the demands of the military life. This realization is often a shock for them because they always wanted to come to the Academy.

In fact, many cadets have wanted to attend the Academy and have worked toward it for years. This leads to stress for those cadets who are considering not staying. They have made numerous sacrifices to get to the Academy and the question now is, "is it worth having to take all of the built-in limitations of military life?"

Upperclass cadets are separated not only because they are upper class cadets but also by experience in the system, a well defined role, and a contractual seven year commitment to the Air Force. Their stress rates are still higher than the normal population. This may also be attributed to the continuing demands for excellence in all areas, i.e., academic, military, and athletic. It may be the effect of conformity on cadets that influences them to rededicate themselves to military life.

Allport (1958) pointed out conformity is an important factor which should not be overlooked

As soon as we allow, however, for a "range of tolerable behavior" we are moving toward a more individualistic point of view. We do not need to deny the existence of group norms and group pressure in order to insist that each person is uniquely organized. Some of us are avid conformists to what we believe the group requirements to be. Others of us are passive conformists. Still others are nonconformists. Such conforming as we show is the product of individual learning, individual needs, and individual style of life. (p. 39)

Overall the stress levels of the Academy Cadet Wing exceed the Derogatis norm level for caseness of 63 and would be considered to be significant in terms of clinical support. Based on this data, cadets on the average would require some form of coping assistance. The results of the study also indicated that Clients had the highest stress levels of all groups. Third Class cadets had the lowest T-Scores for stress as measured by the SCL-90-R. Second, Third Class cadets and Clients were found to be in the range of caseness, according to Derogatis.

The findings of each dimension and global indice deserve closer examination. The T-Scores of each group were compared initially with the Derogatis caseness stress level of 63 and then by class with each dimension and indice (see Appendix E for Figures 1 to 12). The following conclusions are drawn from those nine dimensions and three global indices:

1. The Somatization scores are within acceptable limits. Only Second and Third Class cadets had a T-Score near a stress level that might be of concern (59). This would attest to the general good health of the cadet population. It could also be attributed to the high quality of physical health required for admission to the Academy. Finally, this dimension reflects the perception which the cadets have of their health or that they refuse to acknowledge a weakness to themselves or others.

2. The Obsessive-Compulsive dimension parallels that of the clinical syndrome of the same name. It is in keeping with the nature of the syndrome that Clients and Fourth Class cadets should feel and express a reoccurrence of unwanted thoughts or impulses. Learning to cope with these in the Academy environment is significant and as the data reflects, is not fully mastered by any group.

3. The Interpersonal-Sensitivity dimension is an extremely important one. Developmentally, learning how to cultivate relationships with members of both sexes is a significant concern for most adolescents. The uneasiness in this area, which cadets demonstrate, is normal and to be expected for Fourth Class cadets and Clients. However, it is no less significant for Second Class cadets. Certainly the isolation of cadets, the demands for their time, and only one formal academic class (Behavioral



Sciences 330) to address the issue, does not provide cadets with the necessary coping skills to overcome the crisis they feel. Finally, it must be noted that trust is an essential component to the formulation of relationships. Many cadets find that it is difficult to develop a real trusting relationship at the Academy with fellow cadets. This may be partly due to the competitive nature of the environment, where if you show your weakness someone may take advantage of you.

4. Clinical depression is common and expected from clients having difficulty coping. This finding is supported by the results of the Depression dimension. It is also common for Fourth Class cadets, who may be homesick, tired (emotionally, physically, and psychologically), and now questioning their decision to come to the Academy.

5. The Anxiety dimension had some interesting findings. Clients, who have the highest T-Score in this dimension, generally are in a situation where they must improve their situation or face negative consequences. To a degree all groups face this dilemma. This could be the result of expectations formulated by the Academy or by themselves. Third Class cadets, who have the lowest T-Score at 48, may have less pressure. The role of Third Class cadets is unique in that they are seldom in

demanding and responsible positions. They support squadron programs and certainly are responsible for their academic achievements. Their primary role as trainers for the Fourth Class cadets is frequently limited to the latter half of the second semester. Thus, for the first three quarters, they are observers and not expected to assume the responsibilities of the roles as trainers.

6. The Hostility dimension is designed to reflect how cadets deal with their anger. The lack of physically violent behavior by cadets to deal with frustrations is more reflective of the physical outlets at the Academy. However, thoughts and feelings are paramount among the highest scoring groups. Third and First Class cadets, while still uncomfortable, are doing a better job of controlling themselves and coping with the situation. This may be due to the fact that First Class cadets can see the light at the end of the tunnel, i.e., graduation. Finally, Third Class cadets, because there are fewer demands, have a kind of diffused hostility.

7. A high score on the Phobic Anxiety dimension, which reports on dread and apprehension of people, places, or situations, would be normal and expected for clients who are already suffering from depression. Other groups may not have experienced phobic anxiety at a similar level because they did observe a place, person, or situation on

which to focus their anxiety, in which case their anxiety may be more generalized.

8. On the Paranoid dimension groups having the biggest difficulties were expected. It follows that groups with high levels in the Interpersonal-Sensitivity dimension, where trust is a primary issue, might also project thoughts of suspiciousness. Third Class cadets, who have the lowest T-Score (49), on the other hand may not project feelings of suspiciousness as a result of few demands from others. It is almost as if the Third Class cadets are neutral in an environment of hassels and conflict. The hassels and conflict are all around them but seldom hits them.

9. According to the Psychoticism dimension withdrawn and isolated behavior is common for most clients and many Fourth Class cadets. The reaction of many cadets in risky situations is to cope with the potential problem by maintaining a low profile, i.e., avoidance behavior is most often seen. Frequently new cadets find their values are in conflict with the new environment. Many cadets also report not being able to be themselves. They are concerned not only with having to behave in a certain prescribed manner, but in having to verbalize a value system which they do not always fundamentally understand or agree with. This may be something as simple as singing songs while

marching that are offensive to having their creativity limited by having to use only the school method of problem solving.

10. The Global Severity Index (GSI) is the best single measure of the depth of disorder for the cadets. Accordingly, Clients, Fourth Class cadets and Second Class cadets have significant disorder issues, having exceeded the caseness T-Score of 63. The cumulative impact of all other dimensions are dramatically seen in the GSI. While the Third Class cadets are lowest at 52, their stress level could be changed with a modification of their roles, thus, placing them in a precarious position.

11. The Positive Symptom Total (PST) is evaluated in conjunction with the GSI for a comprehensive clinical picture. Generally the PST has confirmed that the stress levels of cadets occurs across a broad range of symptoms. For the Cadet Wing the exception to this was the Phobic Anxiety dimension.

12. Finally, the Positive Symptom Distress Index (PSDI) supports the perception that Third Class cadets are different. They scored as low as or lower than the other groups on all dimensions and global indices. These lower scores may be reflective of the difference in roles, their perceptual view of their responsibilities, or the system has put fewer demands on them. All of these reasons result

from the Third Class not experiencing stress the same as the rest of the Wing.

The trend toward upper class cadets repeating the stress curves of lower class cadets was clearly apparent. Stress levels for First Class cadets never approached those of the Third Class cadets, but they were lower than the Second Class cadets. Generally, stress levels were high for Fourth Class cadets and Second Class cadets. This was also reflected in the Subscores.

According to Derogatis two Dimension Subscores T-Score of 63 or higher constitute caseness, while only one of the Global Scores, the Global Severity Index score need be above a T-Score of 63. In the case of the five groups studied, the First Class cadets had one Dimension Subscore above a T-Score of 63, Second Class cadets had five. Third Class cadets had zero, Fourth Class cadets had seven and Clients had seven. On Global Scores only Third Class cadets and First Class cadets were found to be below the 63 T-Score level.

### Conclusions

The lack of significant difference between Air Force Academy Cadets in the study on the basis of class membership is supported by the results of preliminary

research done by the present researcher. Bolton's (1979) findings, with the Allport, Vernon, Lindsey Study of Values, and later (1980) with Rotter's Locus of Control (I-E), also indicated no differences between military populations making the same environmental adjustments, except where time was a factor. However, the average cadet has stress levels well above stress levels for the average person in the Derogatis non-patient norm population.

Generally, the cadets will require skill development to cope with the demands of their everyday life. The average cadet can expect the first year to be the most difficult and challenging in terms of stress, closely followed by a qualitatively and quantitatively different Third Class year with less stress. This lower stress level is short lived because in the Second Class year cadets will have increased stress levels almost paralleling the stress level of their Fourth Class year. This points to a pressure cooker situation that does not abate significantly until separation or graduation from the Academy.

Clients have the highest stress levels. The fact they seek help may point to an awareness on their part that they no longer can cope with the situation. Much of what occurs with the cadet has been discussed by Lazarus and Folkman (1984) in their writings related to conflict,

ambiguity, and overload.

A social demand can be important in shaping a person's thoughts, feelings, and actions while not necessarily being a source of stress. The critical factors in creating stress are conflict, ambiguity, and overload. With respect to conflict, an otherwise benign social demand can cause stress if satisfying it violates a strongly held value...Conflict can also arise when, in order to satisfy the demands of one role, the requirements of another role must suffer...Role ambiguity is stressful because the person is unclear as to what is expected. Without such clarity he or she is unable to plan effectively or to behave in a directed manner. Finally, social demands can be stressful when their requirements overload the person's resources. (pp. 238-239)

The training environment (military, academic, and athletic) is designed to cause stress by creating conflict, ambiguity, and overload. Determining what amount of stress is enough for each phase of training may be the critical factor for developing the best prepared Second Lieutenant for the Air Force. According to some behaviorists such as Skinner and Bandura, the goals which cadets set for themselves may not be those desired by the Academy. That is to say the cadets' goals may be to avoid negative feedback at all cost, rather than taking on new challenges and risks. The rewards for taking risks may be feeble when compared to the punishment for making a mistake, even when the Academy is presented as a training ground--a place to learn from your mistakes.

## Recommendations

There have been numerous studies of stress and programs designed to reduce it or provide for learning more effective coping skills. On the other hand "placing people under stress" is a significant part of the military training environment. There is a continuing need to balance these two elements, if the outcome of training is to be achieved in a cost-effective manner.

Cost-effective means not only for the institution, but for the individual too. The institution will have failed if the individual, at the end of four years of taxpayer's money, is no better for the experience. Dr. Carl Bryant (personal communication, April, 1986) lectured Academy faculty on the issues of creativity and curriculum development. His theme was the institution, at least in the academic arena, was not helping the cadet to grow creatively. Aiding them to cope with the stress of change may be one of the biggest contributions the CCC can provide.

The following recommendations may be useful in answering the issues surrounding stress:

1. Since this study focused on the Air Force Academy as a unique environment, an examination of the stressors



for this environment is the next logical step in stress research at academies.

2. A larger study should be accomplished using a variety of stress, locus of control, and developmental instruments. These should include the Stress Inventory for Military Universities, being normed by the CCC.

3. Since the Air Force Academy is authoritarian, competitive, and demands conformity to standards, it may be informative to examine these characteristics as they relate to success for academy graduates in the military.

4. In line with recommendation number three is the question of a stress level which enhances learning and performance verses a level that impedes performance.

5. Studies are needed to determine the different coping needs of groups at the academies. This would include all minorities and women.

6. Examine the critical adjustment times for all cadets when entering the academy and how the military helps in the acculturation process.

7. Study the role ambiguity of each class to determine if these can be defined.

8. Perhaps more than any other factor, cognitive and physical overload bring clients to the CCC. A comprehensive study of the Academy system of training may produce data that could be useful in stress reduction.

9. The development of a profile for stressful environments may prove useful in estimating an adolescent's ability to cope in the Academy setting. That is to say different situations should be weighed and compared to the Academy experience to determine normal stress limits.

### Implications

The United States Air Force Academy (AFA) is dedicated to preparing the finest young men and women to be career officers. In the thirty years the AFA has attempted to accomplish this goal, it has met with outstanding success. The numbers of Rhodes Scholarships, generals, and All-American and Olympic athletes all attest to this excellence. Neither the Academy nor the subordinate agencies can rest on their laurels.

There needs to be more extensive research conducted on stress and the unique stressors of the Academy environment. There is little question the challenges of adolescence are further complicated by the sudden demand to conform to a significant life style change. With this in mind, it is also clear the Academy in general and the CCC in particular must formulate strategies for recognizing the adjustment problems of cadets and take

steps to minimise these problems.

This study provided the latest data necessary to understanding the critical problem of stress for cadets. The ultimate reason for the present study was to provide CCC staff with information essential for client treatment. While the findings are by no means conclusive by themselves, when coupled with the unique circumstances of the training environment, a counselor may be better able to predict client recovery.

Therapy is not the objective of the CCC but just as in the case of therapy, any form of professional counseling must be guided by theory and well established procedural technique. The observations of the study are but the beginning in the quest for a better understanding of stress at the Academy and how it impacts on performance of duties, retention rates, counseling procedures, and how to treat the impact of stress.

In essence, the preliminary findings are representative of a stress level not experienced by other college students according to the Derogatis norm data. Some cadets find ways to cope with stress while others find it an overwhelming problem.

Relaxation techniques have been beneficial, even with the uncertainties of the training environment according to Weiher (1975).

...relaxation training has become a popular treatment among lay and professional people. While little is known and probably less is understood, of the principles governing its acquisition, generalization, durability, relationship with other behavior and most importantly, its usefulness. (p. 1)

Counselors at the CCC now know the stress levels to expect and should also realize that few effective coping skills can have long or lasting results unless relaxation techniques which consider the environment are applied.

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## APPENDIX

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APPENDIX A

SCL-90-R



## APPENDIX A

## SCL-90-R

## INSTRUCTIONS

Below is a list of problems and complaints that people sometimes have. Read each one carefully, and select one of the numbered descriptors that best describes HOW MUCH DISCOMFORT THAT PROBLEM HAS CAUSED YOU DURING THE PAST SEVEN " 7 " DAYS, INCLUDING TODAY. Place that number in the open block to the right of the problem. Do not skip any items, and print your number clearly. If you change your mind, erase your first number completely.

How much were you distressed by:

0--Not at all

1--A little bit

2--Moderately

3--Quite a bit

4--Extremely

## S A M P L E   Q U E S T I O N S

## SOMATIZATION (SOM)

- 1. Headaches
- 49. Hot or cold spells

## OBSESSIVE-COMPULSIVE (OBS-COM)

- 10. Worried about sloppiness or carelessness
- 46. Difficulty making decisions

## INTERPERSONAL SENSITIVITY (INT-SEN)

- 6. Feeling critical of others
- 36. Feeling others do not understand you or are unsympathetic

## DEPRESSION (DEP)

- 14. Feeling low in energy or slowed down
- 54. Feeling hopeless about the the future

## ANXIETY (ANX)

- 33. Feeling fearful
- 86. Thoughts and images of a frightening nature

## APPENDIX A

## HOSTILITY (HOS)

- 11. Feeling easily annoyed or irritated
- 67. Having urges to break or smash things

## PHOBIC (PHO)

- 50. Having to avoid certain things, places, or activities because they frighten you
- 70. Feeling uneasy in crowds, could not control such as shopping or at a movie

## PARANOID IDEATION (PAR)

- 8. Feeling others are to blame for most of your troubles
- 43. Feeling that you are watched

## PSYCHOTICISM (PSY)

- 35. Other people being aware of your private thoughts
- 88. Never feeling close to another person

NOTE. The request to reproduce the complete SCL-90-R was not granted by Clinical Psychometric Research. However, use of two questions per dimension was allowed. For samples of stress instruments developed by Derogatis and the Clinical Psychometric Research agency, write: CLINICAL PSYCHOMETRIC RESEARCH, P.O. Box 425, Riderwood, MD. 21139

AD-A182 000

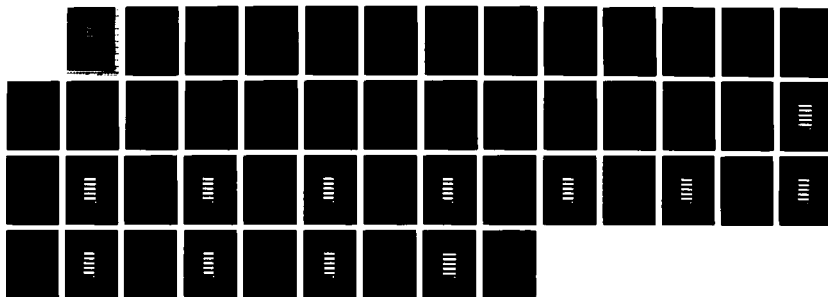
A DESCRIPTIVE STUDY OF STRESS LEVELS OF AIR FORCE  
ACADEMY CADETS(U) AIR COMMAND AND STAFF COLL MAXWELL  
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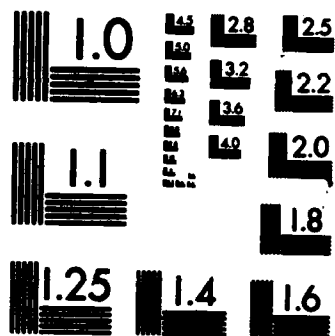
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**MICROCOPY RESOLUTION TEST CHART**  
**NATIONAL BUREAU OF STANDARDS-1963-A**

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## APPENDIX

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### APPENDIX B DEMOGRAPHIC DATA SHEET

## APPENDIX B

## DEMOGRAPHIC DATA SHEET

SELECT THE ITEM WHICH IS MOST CORRECT FOR YOU:

## 1. AGE AT LAST BIRTHDAY:

- |       |         |
|-------|---------|
| a. 16 | f. 21   |
| b. 17 | g. 22   |
| c. 18 | h. 23   |
| d. 19 | i. 24   |
| e. 20 | j. 25 + |

2. EDUCATION LEVEL LAST COMPLETED  
(THIS SHOULD INCLUDE COLLEGE  
PRIOR TO AFA)

- |             |               |
|-------------|---------------|
| a. 12 years | e. 16 years   |
| b. 13 years | f. 17 years   |
| c. 14 years | g. 18 years   |
| d. 15 years | h. 19 years + |

## 3. RACE

- a. Asian American
- b. Black
- c. Caucasian
- d. Native American
- e. Spanish Speaking Origin

## 4. ARE YOU A:

- a. 4th classmen
- b. 3rd classmen
- c. 2nd classmen
- d. 1st classmen

## 5. SEX:

- a. male
- b. female

6. LENGTH OF TIME IN AF:  
(INCLUDE ACTIVE DUTY  
OR PREP SCHOOL)

- a. Less than one year
- b. 2 years
- c. 3 years
- d. 4 years or more

7. PARENTAL EMPLOYMENT:  
(If you were raised by  
someone other than  
your natural parents,  
this question still  
applies)

- a. Both parents  
worked
- b. Father sole/major  
provider
- c. Mother sole/major  
provider

## APPENDIX B

8. Is your MPA
- a. 1.00 or below
  - b. 2.00-1.01
  - c. 2.50-2.01
  - d. 3.00-2.50
  - e. 3.50-3.01
  - f. 4.00-3.51

9. Is your GPA
- a. 1.00 or below
  - b. 2.00-1.01
  - c. 2.50-2.01
  - d. 3.00-2.50
  - e. 3.50-3.01
  - f. 4.00-3.51

10. Are you on the  
Commandant's List?
- a. YES
  - b. NO

11. Are you on probation?
- a. Academic
  - b. Military
  - c. Athletic
  - d. NO

12. Are you on the  
Dean's List?
- a. YES
  - b. NO

13. Are you on an  
Intercollegiate team?
- a. YES
  - b. NO

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## APPENDIX

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APPENDIX C  
COVER LETTER



## APPENDIX C

Reply to: DFBLC  
Subject : Stress Research  
To: Survey Participant

1. You have been selected to participate in a study designed to further knowledge in the area of Stress Management in a Military training environment. Your participation in this research will involve answering a survey which will take approximately 30 minutes to complete. There is no time limit for completing the survey. However, you are asked NOT to consult anyone in answering the survey. Do not spend too much time on any one question. Procedures for completing the surveys are included on the instruments. To facilitate scoring of your answers, it is important that all of your answers be placed only on the survey instruments.
2. The information that you supply will be kept in the strictest of confidence, in keeping with the American Psychological Association code of ethics. Please DO NOT put your name on the surveys. Your participation is voluntary and will not have any impact on your career or duties.
3. Your decision to participate in this study is important and greatly appreciated. I can be contacted at the Cadet Counseling Center in Vandenberg Hall (2C14) between 0800 and 1700 hours should you have any questions concerning the study or it's results. These results will be made available to participants. Thank you ahead of time for your cooperation in this research project.

JOSE BOLTON, MAJOR, USAF  
Assistant Professor, Counselor  
Behavior Sciences and  
Leadership Department

1 Atch  
Survey

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# APPENDIX

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APPENDIX D  
TABLES FOR DEMOGRAPHIC DATA

## APPENDIX D

Table 1

Biological and Social Changes at Adolescence

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Biological	Social
<hr/>	
Endocrine	Rites of passage (religious
Reproductive capacity	confirmation, bar mitzvah;
Secondary sex charact-	debutante balls)
eristics	School structure
Adult size	Legal status (military
	conscription; drinking; driving;
	voting)

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Source: Goldberger & Berznitz (1982, p. 518)

## APPENDIX D

Table 2

Developmental Stress of Adolescence

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Puberty	Adult appearance and size
	Reproductive capacity
	Timing (especially if deviant)
	Internal endocrinological changes
	Asynchrony (among body parts, among adolescents)
Cognition	Capacity for abstract thought
Peer Group	Conformity
	Pressure to try new experiences
School	Changing school structure and format

Table Continues

## APPENDIX D

Table 2

Developmental Stress of Adolescence

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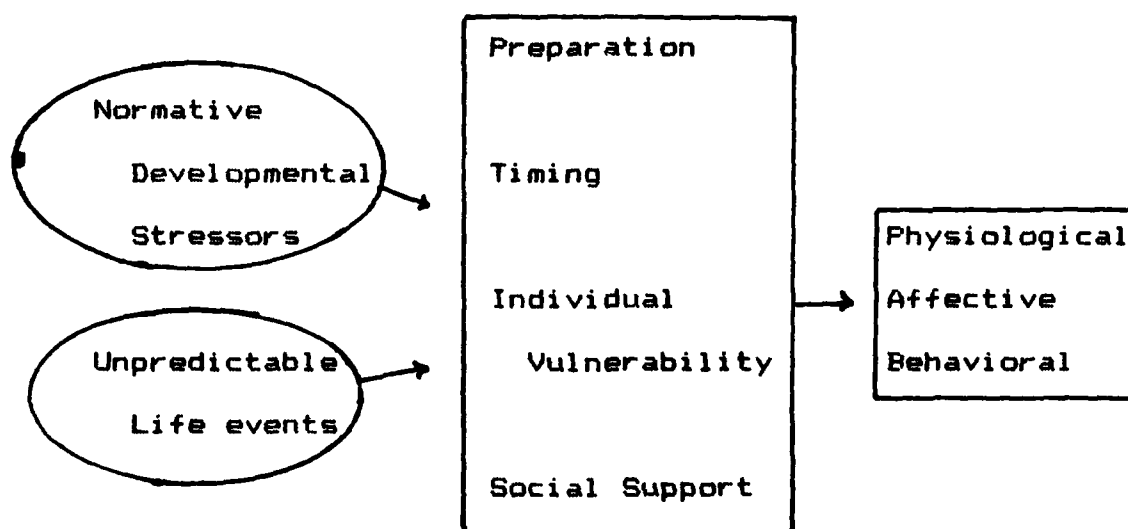
Parents	Parental responses to adult size of adolescent
	Sexual stimulation
	Implications for parents' aging
	Impending separation
Society	Hopes and expectations for youth
	Occupational choices and opportunities

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Source: Goldberger & Breznitz (1982, p. 521)

## APPENDIX D

Table 3

STRESS AND STRESS RESPONSIVENESS

Stressors ----> Mediators ----> Responses

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Source: Goldberger & Breznitz, (1982, p. 525)

## APPENDIX D

TABLE 4

Group Survey Distribution

Groupings	Number of Distributed Surveys
First Class	75
Second Class	75
Third Class	75
Fourth Class	75
Clients	30
Total	330

NOTE: Random distribution of SCL-90-R and demographic  
sheet to the Cadet Wing

## APPENDIX D

TABLE 5

CADETS BY WING AND CLIENT STATUS

CLASS	NUMBER OF PARTICIPANTS	TOTAL N
1 ST	40	40
2 ND	26	26
3 RD	39	39
4 TH	58	58
CCC CLIENTS	30	30
TOTAL N	193	193



## APPENDIX D

Table 6

Participants by Age and Class

Class Rank	1 st		2 nd		3 rd		4 th		Clients	
Age	N	%	N	%	N	%	N	%	N	%
17 or below							5	9.	1	3.
18					1	3.	38	66.	8	27.
19			3	12.	22	56.	13	22.	2	6.
20	1	3.	15	57.5	12	31.	2	3.	10	33.
21	30	74.5	7	26.5	2	5.	0	0.	5	18.
22	5	12.5	1	4.	2	5.	0	0.	3	10.
23/24	4	10.	0	0.	0	0.	0	0	1	3.
TOTAL	40	100.0	26	100.0	39	100.0	58	100.0	30	100.0

## APPENDIX D

Table 7

Race

RACE	NUMBER	PERCENTAGE
ASIAN/AMERICAN	5	3.
BLACK	15	8.
CAUCASIAN	161	82.
NATIVE AMERICAN	3	2.
HISPANIC	9	5.
TOTAL	193	100.0

## APPENDIX D

Table 8

Participants by Probation Status

<hr/>		
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TYPES OF PROBATION	NUMBER	PERCENT
<hr/>		
ACADEMIC	26	13.
MILITARY	12	6.
ATHLETIC	6	3.
NO PROBATION	152	78.
<hr/>		
TOTAL	196	100.0
<hr/>		

## APPENDIX D

Table 9

Military Point Average--MPA

MPA	NUMBER	PERCENTAGE
2.00 or below	1	.50
2.01 - 2.50	40	21.00
2.51 - 3.00	99	50.50
3.01 - 3.50	40	21.00
3.51 - 4.00	13	7.00
TOTAL	193	100.00

## APPENDIX D

Table 10

Grade Point Average--GPA

GPA	NUMBER	PERCENTAGE
2.00 or below	15	8.
2.01 - 2.50	52	27.
2.51 - 3.00	65	34.
3.01 - 3.50	39	20.
3.51 - 4.00	22	11.
TOTAL	193	100.0

## APPENDIX D

Table 11

Sex

CLASS RANK	MALE			FEMALE	
	I	I-----		I-----	
	I	N	%	N	%
1 st		31	78.	9	22.
2 nd		24	92.	2	8.
3 rd		33	85.	6	15.
4 th		51	88.	7	12.
CLIENTS		28	93.	2	7.
Total		167	87.	26	13.

## APPENDIX D

Table 12

Commandant's Award

CLASS RANK	YES	%	NO	%
1 st	21	53.	19	47.
2 nd	8	31.	18	69.
3 rd	9	23.	30	77.
4 th *	7	12.	51	88.
CLIENTS *	9	30.	21	70.
TOTAL	54	28.	139	72.

\* Note: Fourth Class cadets may not have qualified because they were first semester freshmen.

## APPENDIX D

Table 13

Dean's Award

CLASS RANK	YES	%	YES	%
1 st	16	40.	24	60.
2 nd	6	23.	20	77.
3 rd	15	38.	24	62.
4 th *	5	9.	53	91.
CLIENT *	10	33.	20	67.
TOTAL	52	27.	141	73.

\* Note: Fourth Class cadets may not have qualified because they were first semester Fourth Class cadets.



## APPENDIX D

Table 14

Intercollegiate Teams Participation

CLASS RANK	YES	%	NO	%
1 st	9	23.	31	77.
2 nd	7	27.	19	73.
3 rd	6	15.	33	85.
4 th	29	50.	29	50.
CLIENTS	6	20.	24	80.
TOTAL	57	30.	136	70.

## APPENDIX D

Table 15

SCL-90-R T-SCORES


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GROUPED T-SCORES					
SYMPTOM DIMENSIONS *	1 st	2 nd	3 rd	4 th	Clients
<hr/>					
SOM	57	59	49	59	57
OBS-COM	76	63	59	69	71
INT-SEN	64	68	58	68	68
DEP	59	69	59	71	72
ANX	62	62	48	64	71
HOS	50	63	50	63	65
PHO	00	00	00	00	59
PAR	62	59	49	64	64
PSY	59	64	00	64	69

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Table Continues

## APPENDIX D

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GROUPED T-SCORES					
SYMPTOM DIMENSIONS *	1 st	2 nd	3 rd	4 th	Clients
GLOBAL MEASURES *					
GSI	64	65	52	67	72
PST	62	64	60	64	64
PSDI	60	60	00	63	66

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\* NOTE: See Appendix F for more detail on description of  
instrument dimensions and global measures.

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## APPENDIX

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### APPENDIX E

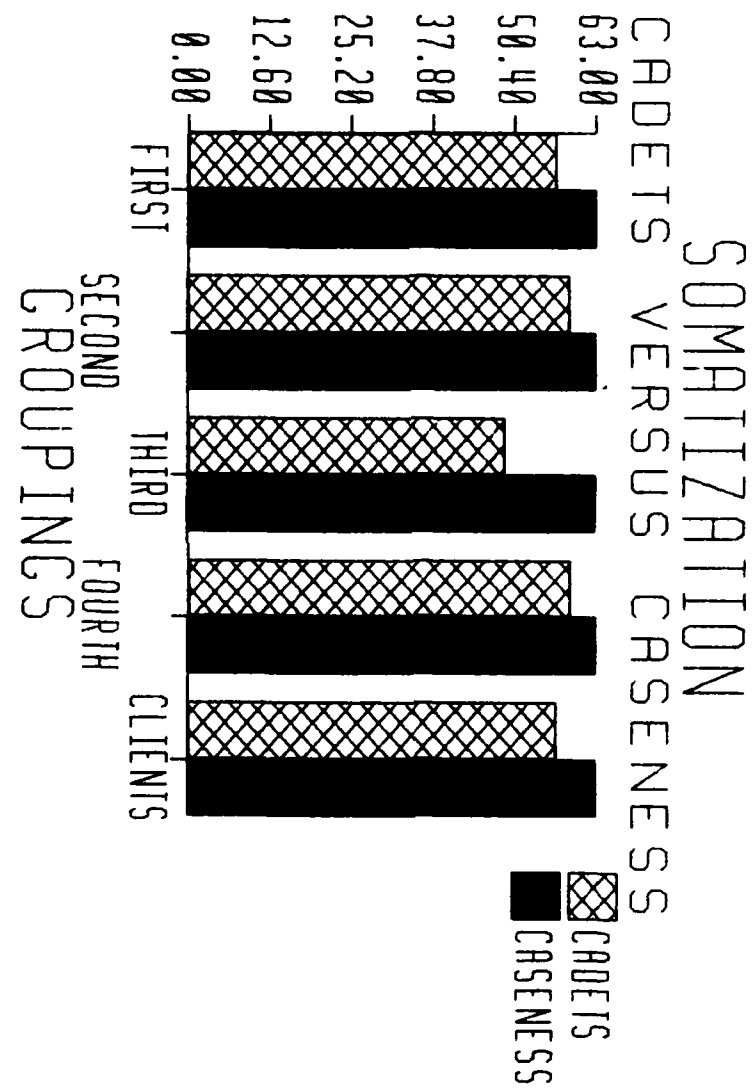
Figures of Derogatis SCL-90-R (SCL) Data

## APPENDIX E

## Figure Caption

Figure 1. Cadets compared for caseness (T-Score of 63)  
by the Derogatis SCL-90-R on the Somatisation dimension.

# T - SCORES DEROGATIS SCL-90-R

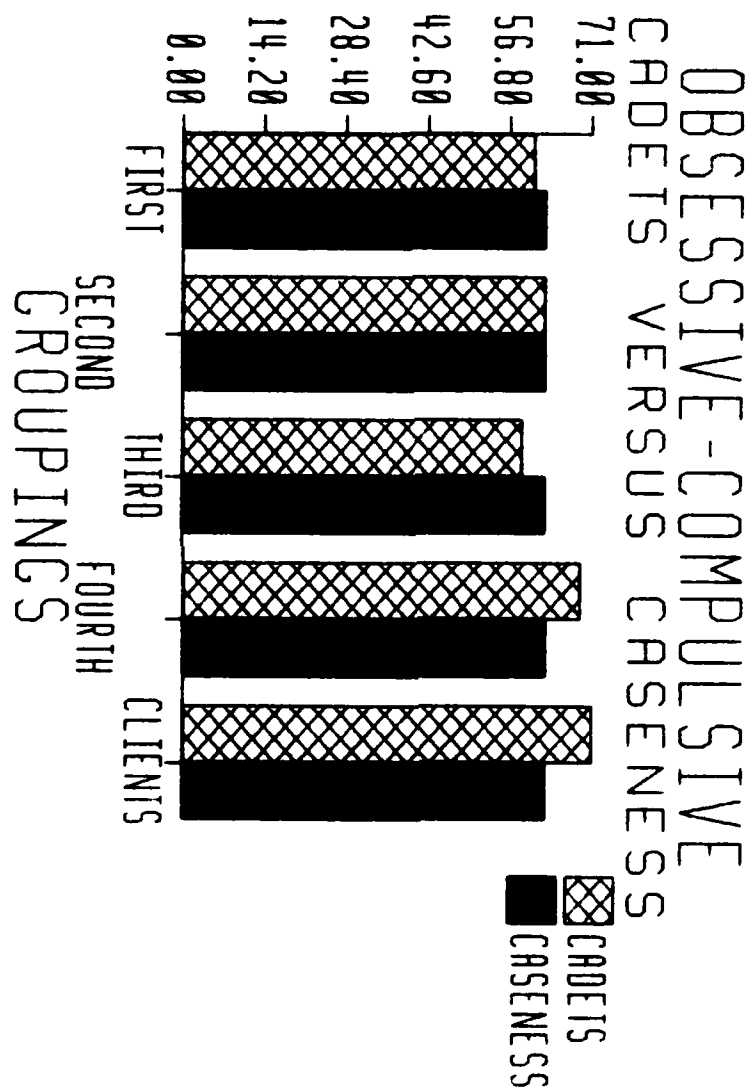


## APPENDIX E

## Figure Caption

Figure 2. Cadets compared for caseness (T-Score of 63) by the Derogatis SCL-90-R on the Obsessive- Compulsive dimension.

# T - SCORES DEROGATIS SCL-90-R



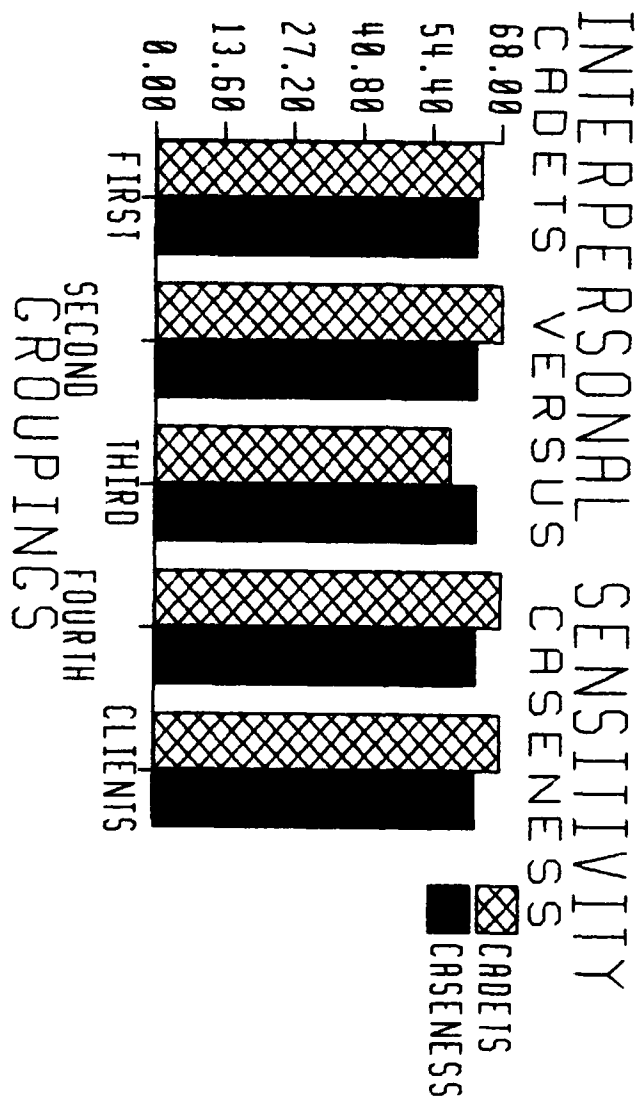


## APPENDIX E

## Figure Caption

Figure 3. Cadets compared for easiness (T-Score of 63)  
by the Derogatis SCL-90-R on the Interpersonal-Sensitivity  
dimension.

# T - SCORES DEROGATIS SCL-90-R

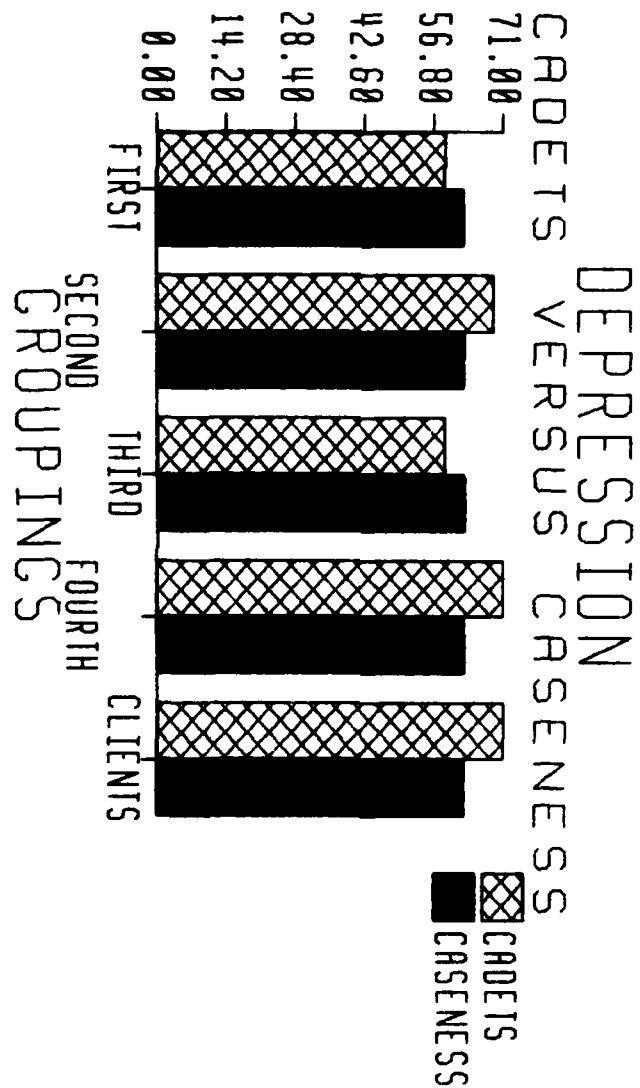


## APPENDIX E

## Figure Caption

Figure 4. Cadets compared for caseness (T-Score of 83)  
by the Derogatis SCL-90-R on the Depression dimension.

# T - SCORES DEROGATIS SCL-90-R

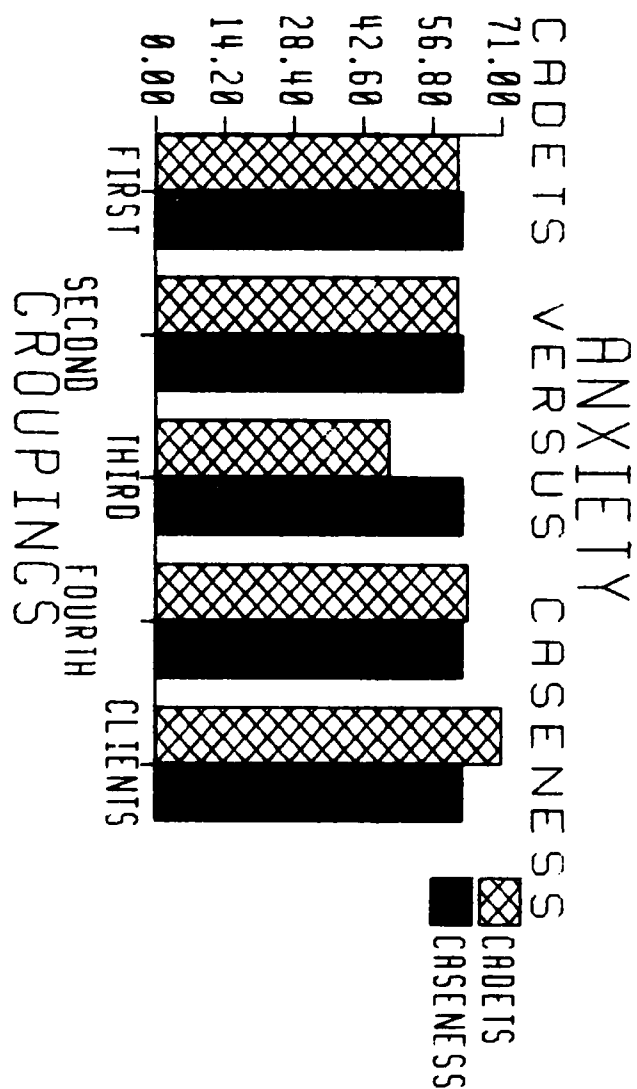


## APPENDIX E

## Figure Caption

Figure 5. Cadets compared for caseness (T-Score of 63)  
by the Derogatis SCL-90-R on the Anxiety dimension.

# T - SCORES DEROGATIS SCL-90-R

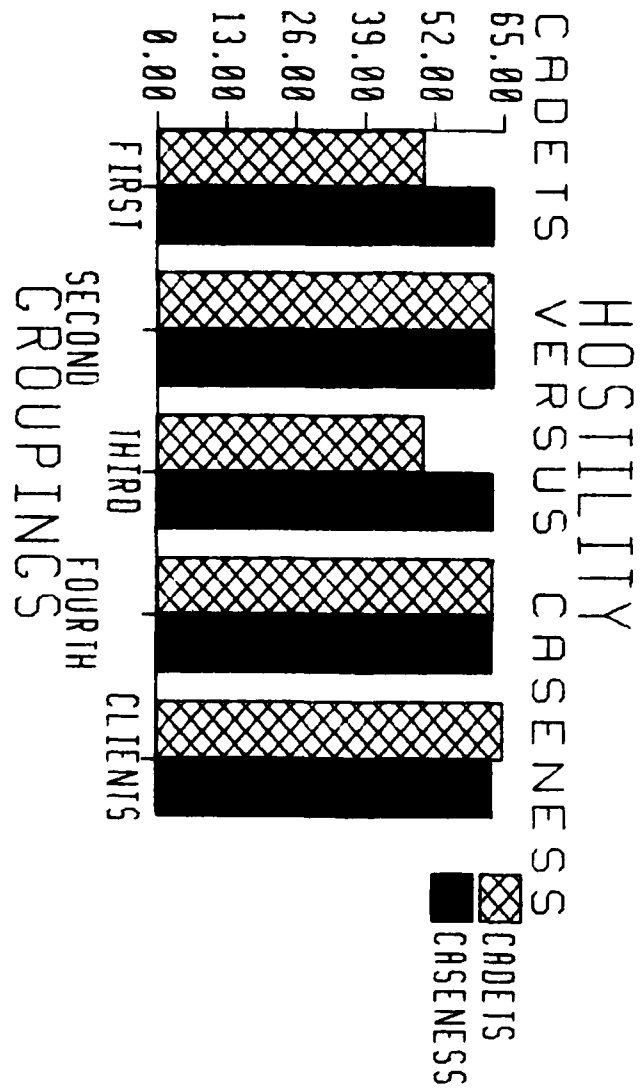


## APPENDIX E

## Figure Caption

Figure 6. Cadets compared for caseness (T-Score of 63)  
by the Derogatis SCL-90-R on the Hostility dimension.

# T - SCORES DEROGATIS SCL-90-R



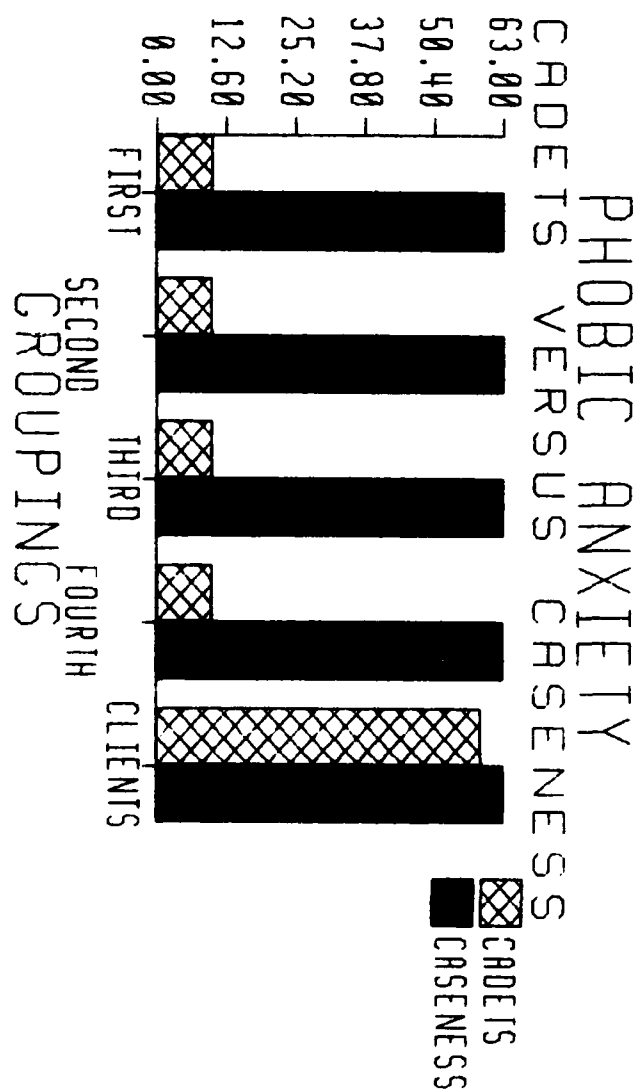


## APPENDIX E

## Figure Caption

Figure 7. Cadets compared for caseness (T-Score of 63)  
by the Derogatis SCL-90-R on the Phobic Anxiety dimension.

# T - SCORES DEROGATIS SCL-90-R

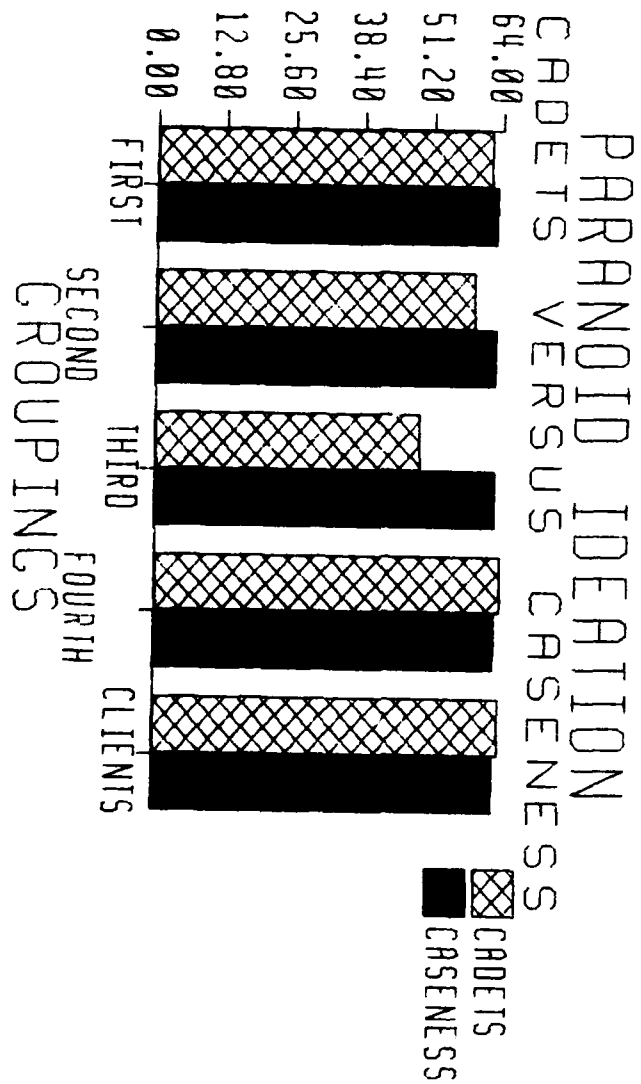


## APPENDIX E

## Figure Caption

Figure 8. Cadets compared for caseness (T-Score of 63)  
by the Derogatis SCL-90-R on the Paranoid Ideation dimension.

T - SCORES  
DEROGATIS SCL-90-R

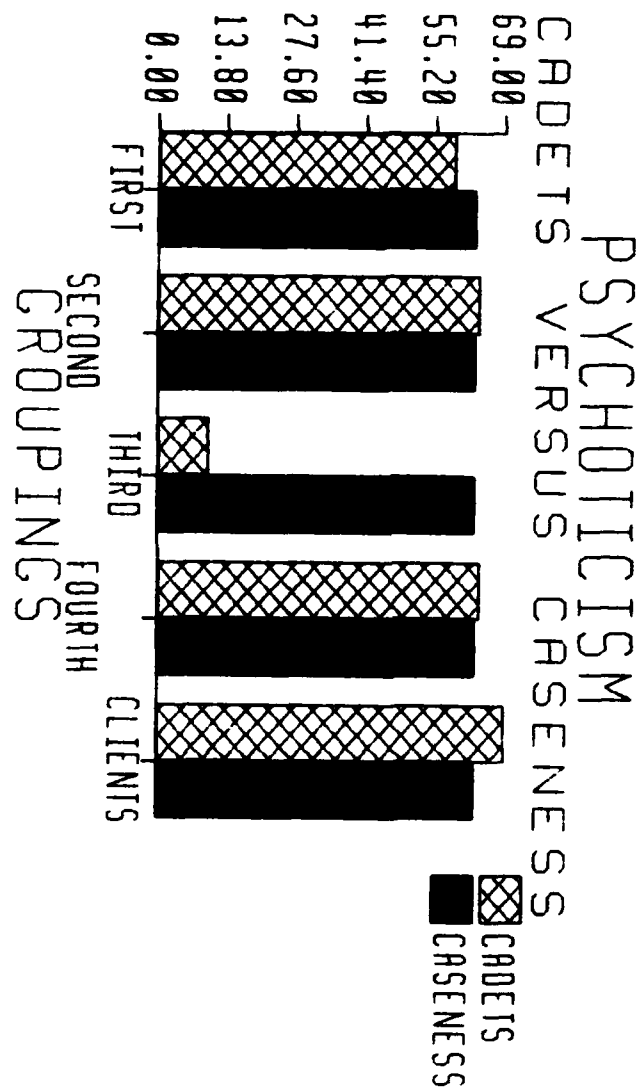


## APPENDIX E

## Figure Caption

Figure 9. Cadets compared for caseness (T-Score of 63)  
by the Derogatis SCL-90-R on the Psychoticism dimension.

# T - SCORES DEROGATIS SCL-90-R

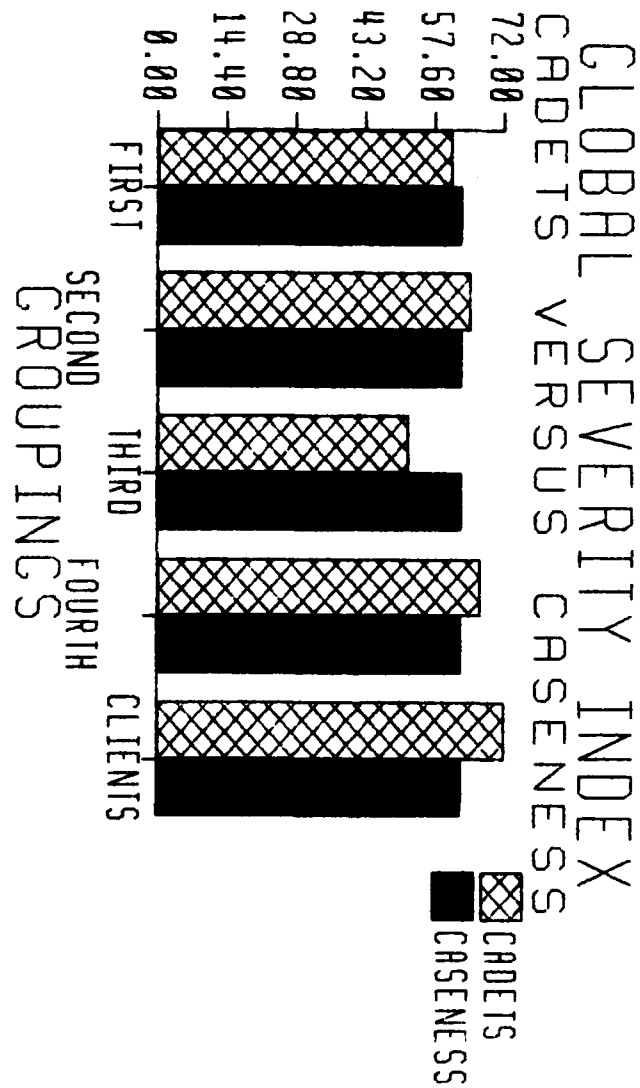


## APPENDIX E

## Figure Caption

Figure 10. Cadets compared for caseness (T-Score of 63) by the Derogatis SCL-90-R on the Global Severity Index (GSI) dimension.

# T - SCORES DEROGATIS SCL-90-R



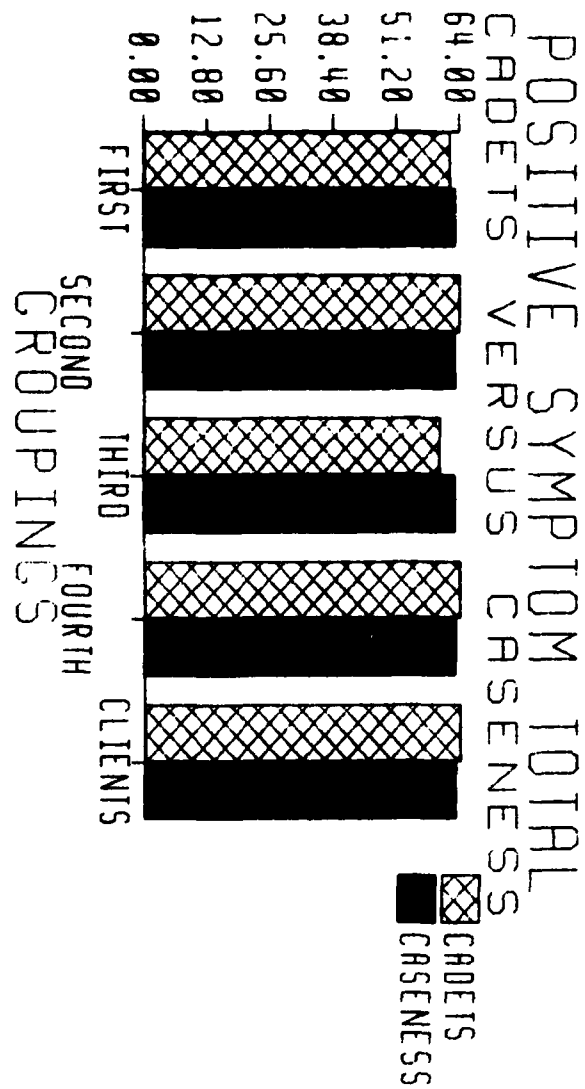


## APPENDIX E

## Figure Caption

Figure 11. Cadets compared for caseness (T-Score of 63)  
by the Derogatis SCL-90-R on the Positive Symptom Total (PST)  
dimension.

# T - SCORES DEROGATIS SCL-90-R

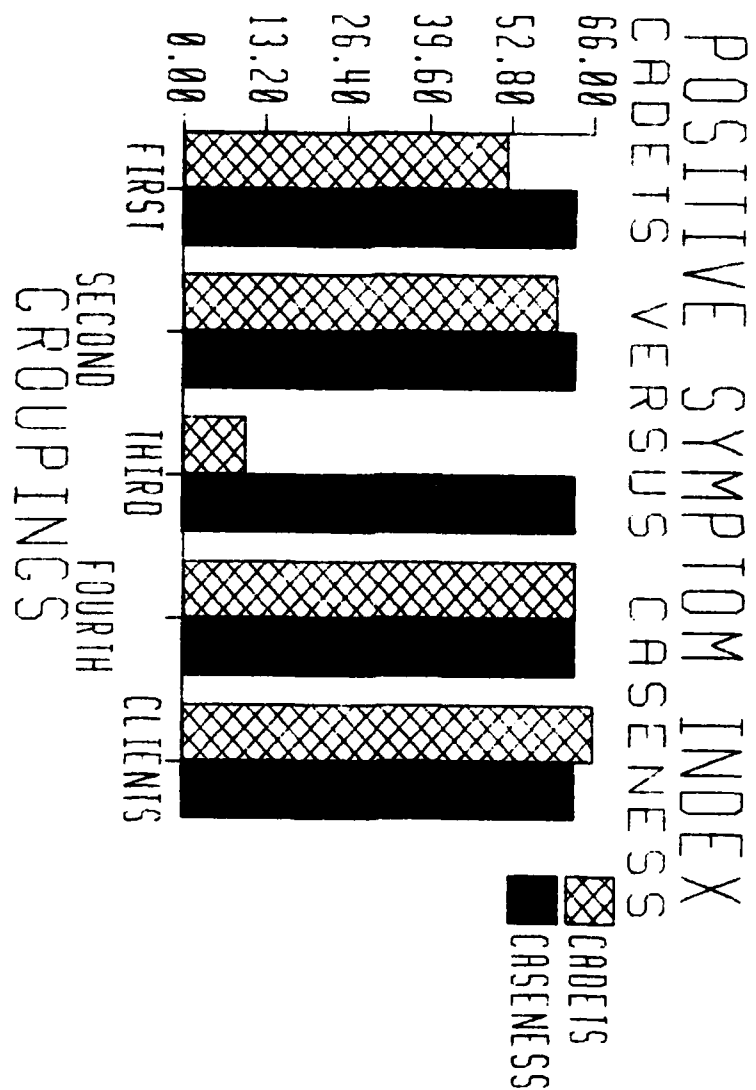


## APPENDIX E

## Figure Caption

Figure 12. Cadets compared for caseness (T-Score of 63) by the Derogatis SCL-90-R on the Positive Symptom Distress Index (PSDI) dimension.

T - SCORES  
DEROGATIS SCL-90-R



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